

How Sound is Nazi Germany's Economy? By WILLIAM BOWER SEE PAGE SEVEN



We regret to state that we are not yet able to announce the prize-winner in our War Suggestions Competition, but we positively promise a decision in next week's issue. The task of deciding among a number of suggestions of radically different character is extremely difficult.

Particulars of our current Children's Zoo Photographic Competition were published in last week's issue, and can be had, along with entry coupons, at the Zoo at the Canadian National Exhibition, where the photographs must be taken.

THE swift and dramatic movement of events in the sphere of the relations between the United States and Canada (and therefore between the United States and the British Empire) during the last two weeks must by this time have convinced most Canadians, and will we feel sure convince subsequent students of the history of our period, that it is just as well that Miss Judith Robinson and Dr. Bruce did not succeed in driving the present Prime Minister of Canada out of office at the beginning of the parliamentary session. We find ourselves unable to believe that any other person at the head of the Canadian Government could, in the months immediately preceding an American election, have achieved anything like the same degree of unanimity and practical devotion to a common purpose as Mr. King has achieved through his close associations with the President and his popularity with the American people. Nor do we share the fear sometimes expressed that this common effort, being necessarily concerned largely with the defence of this continent rather than that of Great Britain, will diminish the efficiency of Canada's contribution to the latter cause. The defence of North America is imperatively necessary, and cannot be sacrificed by the United States for the sake of any contribution to the defence of an Old World country. But when once that defence is made unitary as between the United States and Canada, a great deal of Canada's effort which could not, without American co-operation, be diverted from this continent, can now become available for Great Britain, whose Government, we are convinced, has been all along as profoundly interested in the whole negotiations as our own.

Civilian Morale

THE feature of the war this week is the mounting list of civilian casualties—not officially promulgated by either side, but fairly frankly disclosed in the language of the communiqués on the part of Great Britain, and rigidly suppressed on the part of Germany. Horrible as these casualties seem to us of the English-speaking countries, which have been almost immune to such disasters for a century or more, they are inseparable from the life-and-death struggles of great nations and great civilizations throughout history; there is no justification for the fond belief that war can be confined to the professional fighting forces; it never has been and never will be so confined when it develops into the kind of conflict by which the destiny of the world is decided. And we suspect that in a very deep and true sense the civilians of Great Britain would not have it otherwise. They are now sharing the risks of the fighting forces, as they were already sharing the work—since it is absurd to claim that the man who makes the gun is any less indispensable to the fight than the man who fires it.

Morale in Germany is almost entirely a product of rigid regimentation, control, discipline, and is therefore much more difficult to maintain in the civilian population—regimented and controlled though it is—than in the fighting forces which are under complete military discipline. Morale in Great Britain is much more a matter of the natural quality of the people. Moreover morale is much more easily maintained in a nation which is fighting against the invasion of a hateful tyranny than in a nation which is fighting merely for conquest. Herr Hitler is endeavoring to shatter the nerves of the British people before the advent of the season of the year in which the accuracy of his bombing operations will begin to be gravely interfered with by climatic conditions. The weapons at his disposal are of greater range and intensity than in any previous war, but it is important to remember that in fundamental character they

THE FRONT PAGE

are none of them new. Cities have always been susceptible to siege; countries have not been until the development of aircraft. The besieged city has always been subject to bombardment, to the setting of fires, to the slow pressure of starvation and disease; the peoples of cities have endured these things for the sake of their freedom and that of their children, and they have endured them so long as there was any hope of endurance leading to victory. In Great Britain today there is the strong assurance that endurance must lead to victory, if only the essential war industries can be kept going. The time during which Herr Hitler can apply his terror is a matter of weeks only; once those weeks are over, Great Britain has the rest of the century, if necessary, in which to convince Germany that her domination of the world is impossible.

Two-Way Compulsion

CANADIAN labor, we feel confident, is just as anxious as Canadian capital that the British Empire should win this war in which it is engaged against the most anti-labor government in the world; but it is not prepared to admit that it is called upon to accept any sacrifice in the way of terms of employment which the employer may choose to impose upon it, while the employer is under no compulsion to accept any sacrifice that he does not feel like accepting. Some time ago the Government—very unwisely as we think—undertook to impose a limitation upon at least one of the terms of employment of capital in war industries; it undertook to legislate to the effect that profits in war industries should not exceed 5 per cent. We do not think the limitation was reasonable, and we are not in the least surprised that capital refused to accept it; but nobody can be surprised if labor, seeing that capital has successfully refused to accept the one limitation so far imposed upon it, should object to having any limitations imposed upon its own freedom of action at least until capital has been made to accept some restrictions of its own.

There will be grave difficulties about the solution of this problem, but it cannot be insoluble. The chief difficulty will be in inducing the Canadian public, and Canadian capital in particular, to see the absolute necessity of admitting labor to a strong representation in all bodies invested with authority for determining the working conditions in war industries. This will be a much harder task than in Great Britain, which has already had two Labor Governments; but it must be done, and people who think that an adequate reform consists in the establishment of a National

Government in which the Tories will have 45 per cent of the portfolios and the Liberals 55 per cent, on the ground that the popular vote was divided in somewhat that fashion, are entirely deceiving themselves. Labor had very little means of expressing itself in the last election; it is not without means of expressing itself now.

War and the C.N.E.

THE Canadian National Exhibition is now well under way, and we are glad that this and several others of the great fairs of the country are being carried on in spite of war conditions. Not only do they help in maintaining the spirit of the people in a time of difficulty, but they actually contribute a good deal to the efficiency of our war effort. Among the exhibits are a number which minister directly to our knowledge of the extent and efficiency of Canada's war industries, and thus strengthen the hands of both the government and the industrialists, to whom public confidence is urgently necessary if they are to go on doing their useful work upon an ever-expanding scale.

These exhibits proceed mainly from the automobile companies and other heavy industries, and are a striking evidence of the value to Canada and the Empire of the foresight and courage of the industrialists who planned the industries and the successive governments which have afforded facilities and encouragement for their establishment and expansion. If it had not been for the tariff protection afforded to these industries in both the Canadian and overseas markets, and for the skill and enterprise with which they were designed and carried on, Canada's contribution to the economic part of the war effort would have been small indeed.

Deputy to Minister

THE appointment of Dr. Duncan McArthur to the post of Minister of Education for Ontario has one serious drawback. As Deputy Minister he could have remained at his post for the rest of his active life; and he is still a young man. As Minister he must perform leave office as soon as the people of Ontario decide that the Liberals have been in power long enough. That may not take place for some little time, but it is hardly likely to be deferred until Dr. McArthur reaches the retiring age; Ontario is not Quebec, with a habit of forty-year tenures of power. But regret at the sight of a very able Deputy Minister accepting a more precarious position is tem-

THE PASSING SHOW

BY HAL FRANK

THE people of Britain are demanding that Berlin be bombed in retaliation. They want to show Hitler the terror of his ways.

The sun also rises.

Despite Hitler's "surprises".

—Old Philosophical Manuscript.

LaGuardia heads the joint defence committee of the North American continent. There's something in a name after all.

Cartoon of the week: The Isolationist, depicted as an ostrich with his head buried in the quicksands of our time.

And you will know it is Utopia, too, because the newspapers will be laughingly referring to the phut columnists.

The air war over Great Britain has emphasized once again the stamina of the British peoples. They've shown they can take it when the Goering gets tough.

First Citizenship: "What a lovely brown skin. Just back from your holidays?"

Second Citizenship: "Nope. I couldn't get away, so I went to a five and tan cent store."

Russia still remains an enigma. Everybody is still wondering what the Soviets will do next to Germany.

Question of the Hour: "Can I turn in this crumpled registration card on a new one?"

And you will know that the fall is really here when you go into air-conditioned theatres to get warm.

Herr Hitler is learning to his dismay that there's something tougher than masonry and concrete. It's the fighting spirit of the British peoples.

Esther says she's afraid to venture out of the house these days. Not because she's afraid of hold-up men but because twice she went out and forgot her registration card.

↑ THE PICTURES ↑

NEW WORLD DEFENCE. Canada and the United States have united to prevent any attempt of the Nazis to invade the North American Continent. This week the Joint Defence Board has been meeting at Ottawa under the dual chairmanship of Mayor LaGuardia of New York and Col. O. M. Biggar of this country. Their continued discussions will embrace a plan to place a ring of steel around the tremendous coast-line of the northern part of the new world. Our pictures indicate that all is ready on our Eastern Coast. Left, a member of the Royal Canadian Artillery lovingly restores the polish on one of Canada's "Big Berthas" while, right, a comrade squints through the sights in practice for "the day", if ever it comes.

perced by recognition of the fact that he would scarcely in any event have been satisfied by a lifetime as a high civil servant.

The Legislature gains much by Dr. McArthur's move. The Cabinet gains less, for it is no secret that he has been a Minister in every respect except the name for several years past, and has had more influence on the Government's decisions than any other outsider with the possible exception of Mr. Chester Waters. There should however be a greatly increased interest in the discussion of educational matters in the Legislature, where Mr. George Henry and Mr. Macaulay will have somebody to talk to on their own level; and this should be much to the good.

The appointment has one other interesting feature. It almost certainly foreshadows a cessation of the preposterous feud between the provincial and federal Liberals in Ontario which has for years been upsetting the politics and impeding the public business of the province. Dr. McArthur is emphatically a man who is entitled to have ambitions in the federal sphere; and he is not likely to feel that these would be advanced by the continuance of a King-must-go policy by an Ontario Liberal Government of which he is a member.

A Canadian Art Form

FEW Canadians, even among the professional producers of literary material, can have realized the full extent of the change which has taken place in favor of the native literary artist as a result of the introduction of the radio and the extensive organization of that communication system upon national lines. Three years ago the Canadian who desired to address his fellow-Canadians through the medium of the spoken drama had no vehicle at his disposal except the admittedly important and growing but nevertheless somewhat "precious" and exotic Little Theatre movement, with its narrow appeal and its small and self-conscious audience. Today, as a result of the efforts of the C.B.C. as they were expounded to the Canadian Authors Association during the week-end by several officers of the national radio organization, there is a highly efficient and popular vehicle at his disposal if he can learn to make his appeal through sound alone without the aid of sight.

In the two years during which the C.B.C. has been working at the production of dramatic items, hundreds of scripts, running from half-an-hour to an hour in duration and sometimes belonging to a connected series of half-a-dozen episodes, have been presented over the whole of the Canadian radio system, and a great majority of these have been of Canadian origin and of definitely Canadian appeal. A few of these have been brilliantly good; more will be brilliantly good in the future, as Canadian writers learn the tricks of a new and very special trade; the majority have been satisfactory and workable entertainment, thanks in part to the skill of the C.B.C. producers in imparting the required technical finish. Royalty fees are paid on a very reasonable scale.

As a result of this development, there is today no medium of artistic communication which is more thoroughly under Canadian control in Canada, more completely available for use by Canadians to address their fellow-Canadians, than the radio sketch.

Toward "Union Now"

BY GOLDWIN GREGORY

THE preoccupying American problem of today is defence. At strengthening that defence there are numerous organizations that direct their aim. The intellectuals, with cogent appeals to reason and almost with unanimity, and probably a majority of the people, recognize that in Britain and her fleet lies the primary rampart of the American continent.

One powerful and well-financed group, under the chairmanship of the distinguished Kansas editor and Republican, William Allen White, constitutes the Committee to Defend America by Aiding the Allies. By publicity and otherwise it urges that the full resources of America be put at Britain's disposal. This organization was active at both Republican and Democratic conventions, where in each case it lobbied successfully for a plank in the party platform favoring aid to countries resisting aggression. And at Washington it has been active.

Let us turn to another, international in scope and at once an earlier and more recent movement, and consider for a moment Clarence K. Streit's appeal for "Union Now," with particular reference to the part expected from Canada.

The appearance, about two years ago, of Mr. Streit's book of that name did not go unnoticed.

In countries democratic and autocratic, in the press and through the air and on the platform, in forums and in schools, in home study groups and by the fireside, even around the kitchen stove, the thinking world was seeking the solution of the problem that was then, and is now, Hitler. To these diverse groups, at Munich-time, Mr. Streit addressed a detailed proposal for a federal union of those peoples believing in the democratic form of government. And to many it seemed a good solution.

Mr. Streit is a former newspaperman, and for some years was on the European staff of The New York Times. An early literary attempt, in 1921, was "Hafiz, The Tongue of the Hidden—An Attempt to Transfuse into English Rubaiyat the Spirit of the Persian Poet." His seductive quatrains gave no indication of the political foresight that he later came to display. Widely travelled, he has now drawn on his experiences, his observations, his fertile imagination and his knowledge of political economy to propound a scheme whereby the foreign affairs, the armed forces, the commercial intercourse, of participating nations would become the concern of a single representative government.

Fewer Democracies

As originally put forth, the plan comprehended fifteen democracies in Europe, Africa, Australasia and America, and eventually all the peoples of the world. Thereafter, the community of mankind would live in peace and amity.

Mr. Hitler interfered. The parade of conquered nations had begun. It swelled; and did it swell! There remain the British Commonwealth of Nations and the United States. There remain, too, other American nations and an occasional straggler elsewhere. Mr. Streit's plan was due for revision.

The occasion became ripe for a second promulgation. And the appropriate place was obvious.

Following in turn Germany's Scandinavian adventure, the Battle of Flanders, the capitulation of France, and Hitler's gestures towards Britain, there came to the people of the United States first a dawning, and now a full realization, of the utterly urgent need of utilizing all available means of defence. Eyes were turned anxiously overseas, and centered on the British Isles. Mr. Streit seized his opportunity.

Financed, be it noted, by British propaganda, he suspected, wholly by a group of American citizens whose names were filed with the Department of State, Mr. Streit on July 15 inserted a full-page advertisement in the *New York Times*. "Defence now needs UNION NOW. A proposal that the U.S.A. and the six British Democracies form a Federal Union before it is too late." So read the eight-column head; non-English-speaking countries were excluded, presumably from expediency, lest they confuse and delay the issue.

Mr. Streit continued: "We have two possible defence policies. One is to go on as we are—wait as others did for the war to come to us. . . . The other policy is Union Now—form at once a Federal Union among at least the United States, Canada, the United Kingdom, Ireland, Australia, New Zealand and the Union of South Africa.

RUMMAGE SALE

RUMMAGE sale, sale, sale, I cry.
Lovely ladies, come and buy.
Here is a moonbeam, soft and shining;
Here is a cloud with a silver lining.
Would you spangle your hair with real stardust? Why?
Say!

We have bought up the stock of the whole Milky Way!
Would you with colors your shoulders entwine?
This rainbow around you will look quite divine.
Do you wish jewels to wear in your ear?
These dewdrops than diamonds will sparkle more clear.
Rummage sale, sale, sale, I cry.

Lovely ladies, come and buy.
C. LYNCH ARMSTRONG, VICTORIA, B.C.

Have these Seven States do as our Thirteen States did—proclaim their free principles in a common Declaration, set up a provisional Inter-Continental Congress to defend them all and establish the nucleus of a world Federal Union, modeled on our own Constitution, to which other democracies could be admitted as States are admitted to the American Union."

Arguments were advanced: "The Union will at once control the seas—The Union defends us against a separate peace—The Union defends us in other ways—What are the alternatives?—Would the British accept?—And we Americans?"

The Offer to France

Mr. Streit did not fail to point out that Mr. Churchill, overheight, offered France the very kind of federal union that he proposes. This he regards as proof that the British consider such a proposition practicable and await only an invitation. Maybe. Would Canada? Has not Mr. Streit forgotten that the British nations are not yet on their knees, as was France?

The advertisement concluded with a proposed form of "Declaration of Interdependence," following in phraseology the Declaration of 1776: There is a recital of grievances; then: ". . . such has been the patient sufferance of these free peoples, and such is now the necessity which constrains them to alter their system of governing their mutual relations and common interests. We, therefore, the representatives of the Union of the Free . . . solemnly publish and declare: That these United Democracies are, and of right ought to be, a free and independent Commonwealth; that they intend . . . to establish among them . . . a Federal Union on the broad lines of the American Constitution, open not only to all other democracies . . . but even to the peoples now attacking the free when they have overthrown their dictators . . . that meanwhile they have provisionally organized their Inter-Continental Congress on a Federal Union basis with the people or legislature of each democracy entitled to elect one representative, and one more representative for every 5,000,000 people or major

fraction thereof; that it has full power to levy war, contract alliances, conclude peace, establish commerce and do all other acts and things which independent states may of right do."

Well, what about it?

Part of Mr. Streit's battle would be won if he could gain Canada's assent. And it would be only natural that to Canada he should turn first, presupposing—and it is a pretty big supposition—his prior winning of an American popular consent. Anyway, presuppose it, and assume that the United States would play the unwonted role of sutor.

It is very fit and proper that Canada be the interpreter between the United States and Britain. And the closer the relations of Canada with the United States the closer too are those of Britain. That such an intimacy be ripened to maturity is devoutly to be desired. Mr. Streit would have it bud and bloom at once. Yet flowers that are forced bloom quickly, and as rapidly fade.

At this crisis in the affairs of man there is much to be said for playing the opportunist, and no occasion for strengthening Britain's hand may be lightly cast aside. The test for Canadians must be whether adoption of this plan would ultimately profit their British associates.

Some preliminary objections may be noted: On the basis proposed, the United States would have a representation of twenty-seven in the suggested Congress, where the total of the combined nations of the British Commonwealth would be but twenty-three. Moreover, the armed strength of the latter is left out of consideration, although it must be conceded that potentially the former has at least equal strength. Nevertheless, should not some consideration be given to the numerical strength of British subjects in colonies and dependencies?

Secondly, would not Canadians, and Britons with even more reason, ask if the costs of thwarting Hitler should not be borne in proportion to the proposed congressional representation? If the answer were to be yes, it would be wrong to cavil. What chance, though? Mr. Streit is silent on this point.

Again, the scheme is distracting. Eyes must be kept on the main effort. No nice sense of proportion could now be directed to consideration of the plan. Perhaps this is just as well. Finicky notions have too often doomed attempts at sympathetic understanding and co-operation.

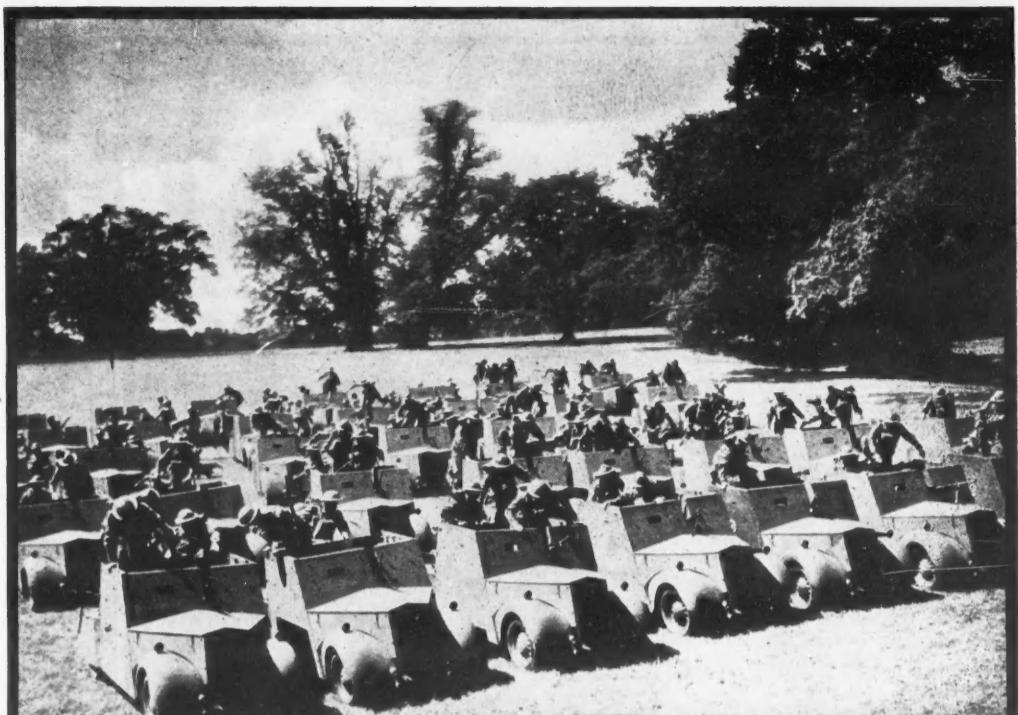
Yet these objections are largely those of detail. Fundamentally, the idea is sound if only because it comprehends the brotherhood of man. Not directly appealing to the emotions it still arouses them, and there is nothing unhealthily in the vision. If the invitation be ever extended, let it not be thoughtlessly rejected.

Meanwhile, there is a movement for a defensive alliance between the United States and Canada. Encourage this; bring it to fruition. It will bind Canada to no more than measures in her own protection, and might be a step towards Mr. Streit's goal.

And now, let Mr. Streit have the last word. When this article was commissioned the writer communicated with Mr. Streit and asked him if he had a word for Canadians. The concluding words are a quotation from his reply:

"The defence of both our countries depends on the maintenance of existing Anglo-American sea power. The problem of both our countries, therefore,—and of all the English-speaking democracies, for that matter,—is to prevent that sea power being halved by loss of most of the British fleet. . . . Federal Union now of the U.S.A. and Canada with the United Kingdom, Eire, the Union of South Africa, Australia and New Zealand would solve it for each and all of us."

"Canada with her unique connections with the British, the French and the American peoples can play a magnificent role now in bringing them all together in the nucleus of a world government of, by and for the people. I look forward to seeing Canada play that role magnificently."



BRITAIN'S NEW ARMORED CARS, APTLY NAMED THE "IRONSIDES", AWAIT HITLER'S HORDES

We Must Go "All Out"

BY H. G. L. STRANGE

IT IS IMPOSSIBLE to differentiate between Canada's war and Great Britain's war. This war can only be won with Great Britain's help, but it might easily be lost by Canada alone, if the assistance given by this Dominion is insufficient.

Canada will have to do much more, I for one believe, than she is doing at present, before victory over the Nazis can possibly be gained.

This conclusion is based upon the following presumptions:

(1) That the British Naval blockade of the whole of Europe, even if completely successful, cannot possibly alone win the war.

(2) That the war can only be won finally by the defeat of the German armies in battle and on the continent of Europe.

(3) That to defeat the German armies in battle, in Europe, will require a force of at least 120 divisions, even better equipped in every way than are the German armies at the present time.

(4) That this better equipment must include the achieving of definite superiority in the air over Germany with all types of aircraft—bombers, fighters and reconnaissance planes, and in having an even larger number of tanks and armored cars for each British Army Corps than the Germans employ or are likely to employ.

(5) That while part of the tremendous effort that will be required may be supplied by allies who have not yet entered the conflict, yet it would be wise to plan so that the whole of the forces, materials and equipment needed will have to be supplied by the British Empire alone.

The naval blockade may "soften up" the enemy; it may weaken his efforts to make war on us or to oppose us. But that is, I believe, as far as the blockade can go.

The British blockade undoubtedly will curtail the supply of foodstuffs and of certain raw materials to Germany, but we must not delude ourselves with the idea that an energetic, virile, efficient, and unscrupulous people, such as are the Nazis, can ever be driven to their knees in defeat merely by privations of this kind. The last war showed, and I think all soldiers were surprised to see, how well the Germans could fight long after they were supposed to be completely at the end of their food resources and of other important materials. Man's ingenuity for finding substitutes is amazing, and the ability of people, under the spur of patriotism and of sheer necessity, to "get along," and to do much work and quite good fighting, with less rations than usual, is also astonishing.

If all this is true, it obviously means that the British Empire has a herculean task to perform. It means that Great Britain, every Dominion, every colony, and every other part of the Empire, will have to go "all out" and utilize human energy to perhaps the last man and even to the last woman, and to use finances perhaps to the last dollar.

Is all this being done?

It would seem that Great Britain herself is even now doing her full share towards achieving the objects herein set out. We are told that four million men have been called up for military service and that the government is spending for war purposes this year something over 13 billion dollars in terms of Canadian currency; that income tax has been increased to 42½ per cent., and that the British people who are paying it are insisting that even this is not enough.

How does Canada's present effort compare with Great Britain's? And what more is required of us?

Canada has one-fourth the population of Great Britain. It has about one-sixth of the white people of the Empire. Its natural resources in raw materials are immensely superior to those of Great Britain. If this war, then, is to take every last ounce of energy and every last dollar that each and every person in the British Empire can give, obviously Canada's total effort should be one-fourth of that of Great Britain or one-sixth of that of the Empire as a whole.

If 120 divisions will be needed in the field, Great Britain should—and no doubt will—put in the field 80 divisions. Canada, therefore, should supply 20. Australia and New Zealand together the remaining 20. Troops from South Africa, India and the Crown Colonies will probably find work to do in Northern Africa.

Canada today is officially raising for overseas service only 4 divisions instead of the 20 it would seem she should plan to send. Canada is spending now on the war approximately one billion dollars a year. We have seen, however, that she should, to do her full Empire share, spend at least one quarter of the amount that Great Britain is spending. Canada's total expenditure, therefore, should be at least 3 billion dollars a year for war.

Considering all this, it seems to me that we must sharply differentiate in our minds between the efforts being made by Canada in producing and selling planes, war materials and other equipment to Great Britain, and for which Great Britain is paying, and those efforts that Canada is making towards the common defence of the Empire and for which Canada is paying herself, which latter effort, of course, is the true patriotic contribution she is making in this war.

What the Canadian industrial plants are manufacturing and selling to Great Britain is exactly on a par with the aeroplanes, tanks and other munitions and war materials that United States factories are selling to Great Britain. These are valuable and profitable efforts, of course, and as such are not to be discounted, but as long as the British tax-payer pays for the things Britain receives from Canada, such efforts cannot be counted as part of Canada's real share of the total Empire and Canadian defence.

The efforts, then, that Canada will have to make at her own cost need to be far greater than are being made at this present time, and it is my own belief that many, if not most people, before they will be willing to endure the necessary sacrifices required, and before the Government will dare to ask the people to pay the price that this war will exact, will have to be aroused up to a much keener sense of the stark urgency of it all than they now possess.

I would recommend, therefore, that an intensive and sustained campaign of publicity—by radio, in the press, by booklet and on the lecture platform—should be made at once, setting forth clearly the total effort that Canada will have to make for common Empire defence, the amount it will cost, how it will bear upon each person, and the great sacrifices that will be required from all in order that victory may be achieved; and setting forth, finally, the far greater hardships and privations, the loss of precious liberties, and the sheer desolation of spirit that would have to be suffered if the British Empire fails to win the war and if the Nazis should be victorious.

My own experience, in the last war and so far in this, is that when our people are properly informed about the task to be done, and highly inspired about their duty by those in whom they have confidence and trust, they respond at once.

The Canadian people have one great advantage over the British people, which advantage one would think should enable Canada to do even more in proportion than Great Britain herself. It is that here in Canada we are not subject to the daily and nightly risk of losing, by bombing, our property and the lives of our loved ones.



THESE OBSERVATION POSTS ARE PROOF THAT BRITAIN WON'T BE TAKEN BY SURPRISE

New Tactics Secret of German Military Success

BY J. S. B. MACPHERSON

This is the third of a series of articles on the Battles of Flanders and France which are designed to explain the easy success of the Germans. Here is examined closely the German form of attack known as "infiltration". The conclusion is that the element of surprise was a paramount feature and that unless the Germans can develop another great surprise, the Blitzkrieg is a bold conception magnificently carried out, but now robbed of the terror of the unknown.

WE HAVE seen in a general way how and why the Germans were so successful in the battles of Flanders and France. Now let us examine their method in greater detail.

Towards the end of the last war the Germans evolved a form of attack known as infiltration. Before that, infantry attacked more or less in lines or waves. If a wave broke through it kept on going straight ahead until it spent itself or was stopped. At Loos in 1915, in some places, waves of Allied infantry penetrated several miles. However the troops on both their flanks were held up, and no other troops were pushed through the gap to support them. Thus the further they advanced the more isolated they became.

This led to the adoption of a new tactical plan, frequently referred to as the tactics of limited objectives. A series of objectives were indicated, generally referred to by colors, that is, the "Green Line", "Brown Line", "Blue Line" and so on. The tactical plan was for the advance to proceed, if it could, to each successive objective on a time schedule. If a certain part of the advance arrived at the Green Line ahead of the others it held its position on that line until the whole advance had reached it. Then the Brown Line was captured, again waiting until all parts of it were taken, and the Blue Line was then attacked.

This had the advantage of preventing rapidly advancing bodies from penetrating too deeply into the enemy's position and being cut off, but it had the disadvantage that where an easy or quick break-through had occurred momentum was lost. The pauses on the various lines also gave the enemy time to bring up reinforcements, and successive advances frequently became more and more difficult and costly. It made for cohesion, but it made almost impossible rapid exploitation of an early success.

In order to escape from the constrictions imposed by the limited objective theory, and at the same time to avoid the dangers of having units rush ahead with no regard to their flanks, the Germans evolved a method which became known as "soft-spot" or "infiltration" tactics. They used this for the first time on the Western Front in the attacks of March 1918 with great success.

The general idea is penetration plus expansion. Where a unit has broken through, if the enemy line is holding on both its flanks it neither goes straight ahead as far as it can, nor does it stop to wait for the neighboring parts of the line to come up. It pushes part of its force ahead, so as not to delay the advance or lose the advantage it has gained by the break-through, but it also pushes against the exposed flanks of the enemy on each side of the gap it has created, and it tries to envelop the enemy's position from the rear. In this way it helps to break down the resistance to the attack of its neighboring units and to enlarge the gap. Thus direct assault is given to its neighboring units, and its own advance is maintained.

Pouring Through Gap

The senior commander, who has the supports of reserves under his control does not use them to reinforce the parts of his front that are being held up, nor does he wait until whole enemy position has been taken. He pours them through the existing gaps, so that the envelopment of the defending troops becomes more and more certain and they either have to save themselves by retreat or be surrounded and captured.

An enemy line successfully attacked in this way does not give way to superior pressure suddenly. It disintegrates and crumbles. It is not so much broken as engulfed.

The best illustration is to imagine a wall of sand built along a beach to keep back the rising tide. The tide does not rush up it suddenly, and either the whole wall collapses, or the sea remains held back. The weaker parts give way and let the water through. The water doesn't then run straight ahead like a narrow river, it spreads along the rear of the wall, advancing at the same time. More and more water pours through the ever-widening gap. Then another gap appears, then another, until the whole wall is overwhelmed. No one can say exactly when and where the disintegration began, no one can say precisely when it was completed. The wall just disappears. This comparison is not perfect, but it is the nearest that can be found.

During the period between 1918 and 1940 the Germans had developed the infiltration method to an extent unforeseen by the Allied staffs—certainly by the French General Staff. They used it not only tactically, but strategically.

In fact if you take the German official communiqués as they appeared in the press from day to day and look on a map at the places reported captured you will see that the battle was infiltration on a vast scale. The British army resisted stoutly wherever it met the enemy. The Germans did not reinforce the troops attacking it, but repeatedly poured through the holes made on each side of it, so that again and again it was forced to retreat without the greater part of it having been seriously engaged.

New Concept of Tanks

Perhaps the most notable feature of the German tactical method was the combined use of light and heavy tanks, combined with aircraft, to overcome resistance.

Before the German onslaughts of May the general conception of the use of tanks was that they should be used to assist the infantry in the attack by breaking down strong points, dealing with machine gun nests, and generally helping the infantry to get on to the position attacked and to consolidate it. The tanks would then retire until needed again to assist in a further advance.

Light fast tanks were to replace cavalry, but only to fill the role formerly allotted to cavalry. They were to be used for reconnaissance, and if occasion presented itself, for long deep raids on the enemy's communications.

Having this theory of the use of the tank firmly fixed in their minds, the French General Staff regarded it as an auxiliary weapon, and hence their great inferiority in numbers as compared with the Germans, and the lack of skilful use which was so often apparent. This also accounts for the lack of anti-tank weapons, and the general lack of training of the troops in adequate defence methods against heavy tank attacks.

The Germans entirely changed the idea of the use of tanks. A superficial examination of their use of this weapon makes it seen that they had also changed the whole conception of tactics. This, however, is not really so.

It has been a long accepted axiom that only infantry can consolidate and hold ground gained. All the other arms, artillery, engineers, and cavalry, are useful to

help the infantry in this task, but alone they can do nothing. The same is true of the tank. It is still true today.

The Germans fully realized this, but they also realized that it is not necessary for the infantry to occupy the captured territory instantly, or even to capture it themselves. If the defending front lines can be thoroughly broken and disorganized all that is necessary is that the infantry arrive in sufficient time to occupy the position won before the defenders can reform, or re-occupy it.

The Germans, therefore, used their heavy tanks in the assault unaccompanied by infantry. This gave them greater freedom of movement and speed as they were unhampered by the slower moving infantry. It also gave them the advantage of quick easy means of identification of hostile troops even when vision was not clear. Anything on the ground could safely be regarded as hostile and attacked at once.

In addition the German tank was more heavily armored than had been suspected. The result was that machine guns, anti-tank rifles, and even the lighter anti-tank guns were powerless against it. The position was assaulted by numerous heavy tanks and the defenders' front pierced in many places, machine-gun nests were destroyed, and the whole machine-gun system of defence dislocated and rendered ineffective.

Further, the heavy tanks did not retire and leave the pursuit to light tanks. They proceeded at once to assault the next line of resistance, while the light tanks fanned out and proceeded to dislocate communications, break up supply systems, impede the bringing up of food and ammunition to the parts of the line still holding, and generally to cause confusion behind the lines and weaken resistance. Where a serious breach had been made, motor-cycle columns and infantry in trucks passed through to seize important railway junctions, bridges, road intersections and strong points.

The main infantry bodies moving up in rear had little to do but mop up isolated positions still holding their ground, and to round up scattered groups of prisoners, cut off from their now shattered main bodies.

What Precedes Tanks?

The tanks were preceded by an intense dive bombing attack. This to a great extent replaced preliminary artillery bombardment. In intensity and accuracy it proved a great tactical surprise, and was of immense value at the beginning of the battle as no adequate means of defence against it had been devised.

FROM WEEK TO WEEK

We Must All Show Cards

BY B. K. SANDWELL

THE National Registration which was completed last week was obviously intended to perform two entirely different and unrelated functions. The first was to make it impossible for any person to move about the country without having provided the government with a means of identifying him and a statement of his domicile and origins. The second was to compile a list of Canadians capable of performing, and available to perform, various tasks of national importance in emergencies. Neither function can be adequately performed unless the registration was as complete as it is possible to make it. In so far as it fell short of completeness, it must be filled out as rapidly as possible, by very thorough scrutiny of the population, as individuals, to make sure that they have their registration cards on their persons.

This scrutiny must be performed. If it is not performed the whole of the money, or four-fifths of it at least, expended on the registration will have been thrown away. Unless the registration is complete, the first function which it was to perform, the police function, will have failed entirely; for it is obviously the people who most need to be watched who will evade registration. The second function, which I regard as of much less importance, will have been performed only in part.

This scrutiny will involve a lot of work for the police and other official classes, and a certain modicum of annoyance—which should be borne patiently by all loyal citizens—private individuals. But the sooner it is set about, the less work will be involved.

I most earnestly trust that the government is prepared to impose a rigid and widespread examination of individuals to make sure that they have their registration cards, as promptly as possible. If, through a period of inattention to the matter by police and other authorities, the public gets the idea that it is unimportant to carry one's registration card at all times, many people will stop carrying it, and the annoyance and trouble caused by the demand for it when it begins to be made will be increased many times.

NEEDLESS to say, persons who are obviously in movement from one place to another should be the very first objects of scrutiny. The officials in charge of passenger vehicles, both by road, rail and water, are already vested with considerable powers of a police nature, and could quite properly be called upon to demand production of registration cards by all passengers, and to take particulars whenever there seemed to be any doubt about their authenticity. Unfortunately the signature is the only thing about the card which can be used as an identifying factor, and the bearer should be called upon to reproduce it whenever there is the slightest doubt whether the card is really his.

But now that so great an amount of travel is done by private motor, it is even more important that there should be a constant check-up of a considerable percentage of all cars using the roads, and that this should extend to all secondary roads which could be used by persons desirous of avoiding the main highways.

Provincial police engaged in highway work might for a time slacken off on speeding and concentrate on the inspection of the registration cards of persons in private motors. In this sphere there is less possibility of trouble about identity, for the driver of the car at least is required to have his driver's licence with him, and unless this corresponds with the registration card there is an obvious and immediate ground for making an arrest.

If the driver is really the person licensed, there can be little difficulty in holding him responsible for the identity of all the persons in his car, and if any of them are later found not to be the persons who they claim to be, he will be in considerable trouble.

IT IS most important to bear in mind that the mere possession of a card is in itself no guarantee that the bearer is registered or that he is the person named in the card. Apart altogether from the fact that the use of amateur assistance made it extremely easy for blank cards to get into the hands of unauthorized persons, there remains, and would



—By Lou.

In Holland parachute troops were used in many localities with deadly effect. However, a good deal too much emphasis has been placed on their successes. Unless they are helped by people behind the lines, or unless the civilian population panics badly, they can at most be a cause of great annoyance.

The dive bombing attack was a serious matter. Its accuracy was deadly and it was developed with no warning whatever. Unlike artillery it can see and choose its target on the spot. There can be no escape from it by changing position. The only way to deal with it is by beating it off.

The Germans also made great use of the mobility

which mechanized transport has given to medium and heavy artillery. They did not, as in the last war, resort to barrage fire to any great extent, but they brought strong concentrations of artillery of all calibers rapidly to bear against positions which had succeeded in withstanding the tank attack, or where the nature of the ground was unsuitable for tank and air operations.

Thus they reverted to the older tactical conception of artillery, which was to use it against specially selected targets where it could be of the greatest value, instead of using it to bombard whole areas, as was done in the last war. In this way they made less demand upon the ammunition supply columns. Barrage fire may be very effective, but it uses a tremendous amount of ammunition, much of which is wasted.

Whether the German methods will be so effective again is a doubtful point. The chief factor appears to have been surprise, and that is now lost. An analysis of the information now available indicates clearly that the light motorized columns penetrating far to the rear met with little or no resistance. The enormous number of prisoners taken as compared with the losses in killed and wounded shows that in the confusion caused by the new use of new weapons large numbers must have given up the fight without ever having been really beaten.

Had the Allies had sufficiently numerous tanks to fight tanks with tanks, or a sufficient number of powerful anti-tank weapons, the new methods might not have

THE CHILDREN'S SHIP

ONE out of thousands of children's voices
Wafted over the sea, asking—
"What is America like?"

"Is American sky of an English blue,
Just like the sky that we always knew?
Will the ship be painted a camouflaged hue?
Where shall we land, and what shall we do?
Where shall we land, and what shall we do?
What is America like?"

"America, dear, is a beautiful land
Because its shores are free;
That's where they planted the Liberty Tree.
You will ride safely over the sea...
But now, tonight, come close to me
And say your evening prayer."

"And what is Canada like?
Shall we get snow-boots and learn to ski?
It was our Nanny who said to me
That Canada's French as French can be,
She said we might see the Quints!
And that is a thing I would love to do—
But what is Canada like?"

"The towns are the same as our dear towns,
And so are the friendly farms.
Airplanes mean safety instead of alarms,
And apples shine on trees like towers.
The rain comes down in sheets, not showers,
The rivers are wider than any of ours—
That's partly what Canada's like!"

"But Canada seems so far away—
I think perhaps I had better stay!
The air raids are nothing, they're just like play—
I enjoy my gas-mask now.
Canada seems so far away—
And don't you think so too?"

"I think I shall put you to bed, my dear,
Nanny is out and the skies are clear—
See, the same old stars burn there and here,
And you and I are alone.
So we'll talk no more about it, my own—
I knew you were half asleep!"

"But mother, who planted the Liberty Tree?
Why can't we stay here and both be free?
Will Joan and Mary be going with me,
And lots of others we do not know.
All of us on the children's ship—
Leaving you here alone?"

"You will ride safely over the sea!
And now, my child, kneel close to me
And say your evening prayer;
Gentle Jesu, meek and mild,
Look upon a little child,
Pity my simplicity...
Good night, my precious one!"

"Good night... my darling mum—"

KATHERINE HALE.

proved nearly so effective. Then the Germans also received invaluable assistance from the enormous number of refugees who swarmed over the roads and added immensely to the already difficult problem of Allied ammunition and food supply. The disorganization behind the lines was not due solely to the presence of rapidly moving hostile columns. With these difficulties removed, or adequately provided for, the Blitzkrieg method might prove to be a delusion.

All through history new methods of attack have proved to be overwhelming while they were new. But also adequate defences have always been devised.

Unless the Germans can develop another great surprise the Blitzkrieg has been seen in all its fury. It was a bold conception magnificently carried out, but it has been robbed of the terror of the unknown.

THE HITLER WAR

Three More Weeks

BY WILLSON WOODSIDE

THREE weeks more, and we can just about say that the Battle for Britain is won. Then it will be time for articles on the first year of war, on the affair with Benito, and a number of other subjects which have been piling up.

Can there be some loophole in the reasoning that if Hitler does not settle with Britain by winter he will face a far less favorable situation next year? If he puts off his invasion now can he hope (1) to knock Britain out of the war and break her blockade by swapping air raids with her and continuing his submarine war all winter, or (2) to undermine her position decisively by switching the war to Africa and the Near East?

In three weeks' time the autumnal equinox arrives, usually bringing with it rough weather in the Channel and North Sea. That will greatly reduce the usefulness of Hitler's "mosquito" torpedo fleet and any small craft and barges which he has been preparing for the invasion. It will also settle the idea which has always been present in German discussions of the subject, of landing on Britain's beaches. Three weeks is a short time in which to secure mastery of the air over the Channel and the South of England, drive the British Navy out of its Channel naval bases, land an invading force and subdue the resistance of Britain's two million defenders. Many people in Britain are almost regrettably concluding that the invasion is off for now. Too bad, they say; it would have hastened the end of the war so much.

If the invasion is postponed, can Hitler hope to undertake it with better prospects next year? It was

suggested here last week that Hitler had an early Fall deadline for the conquest of Britain. But it was by no means argued that he had been able to hold to this timetable. Rather, it was intended to imply that if he failed to strike now he had lost his best chance. Here we have again the argument, from which we drew so much comfort last winter but which was thoroughly discredited by the events of the Spring, that time was on our side. Is it any sounder now than then?

I think it is. Britain's efforts and those of the Dominions are incomparably more strenuous than they were during the "phony war" period of last winter. Complacency has gone. Men of energy, imagination and organizing ability are filtering into the high places. Munitions-making has been stepped up to double and treble the scale. British aircraft production is claimed by Churchill and Beaverbrook to be ahead of the German. Mobilization of the resources of the Empire is now more than a rolling phrase; it is becoming a fact. Meanwhile the United States, too, have begun to mobilize, and realizing their danger are co-operating ever more closely. The 200-300 planes per month which Britain has received from them this summer will be easily tripled by next summer. Certainly it looks as though Britain would be much stronger by next year—unless Hitler can disrupt the process.

Can he do so? Has Hitler any way of forcing time to serve him better than us, as he did by his prodigious efforts last winter? He can't do much to deter Empire or American mobilization. But can he prevent this support from reaching Britain? Can he



SECOND DIVISION HEAD. Major General Victor Odlum, commander of the Second Canadian Division as he was photographed en route to England.

deter Britain's own munitions production, while maintaining his own?

We are now in a position to state categorically that he can't blockade Britain by submarine action. Highly-developed British anti-submarine techniques have cut U-boat depredations to less than half of the 1917 toll. Further, the Minister of Shipping has

just announced that the whole of Britain's losses for the first year of warfare have been made up by captures, new building and purchase, while the accident which made Norway and Holland our allies swelled our shipping resources by a full 25 percent. Granted that this extra shipping is needed to make up for the

longer voyages now required to bring in the butter, bacon, timber, paper and iron ore formerly obtained just across the North Sea in Holland and Scandinavia, and for the delays of convoy, still July's figures, which show that in that month of fierce warfare all around her coasts Britain managed to import more goods than in July 1939, are a sufficient answer to the German claim that Britain is "blockaded".

If Hitler can't blockade Britain from the materials, munitions and man-power of the Empire and the steel and planes of the U.S., which are steadily strengthening her war machine, can he smash her own munitions production? It is far more important than any aid she can receive from abroad in a winter war of attrition, *more than British bombers can smash his arms production?* It is impossible to know exactly what effect the steady R.A.F. pounding has had on German plane and armament production. But an announcement has just come from Lord Beaverbrook that British aircraft production had reached a record mark last week—the week following the greatest German raids and marked itself by aerial activity quite as heavy as Germany could afford to keep up all winter. All reports from Britain seem to agree that serious damage to military objectives is the exception rather than the rule; and the best confirmation I find for this is that in spite of all the communication between Britain and America not a single rumor of heavy damage has made its appearance in all these weeks.

But perhaps our raids on Germany are no more effective? Aside from the factual reports by our fliers of explosions and fires in the target area, and the latest Nazi order forbidding all correspondence between the Ruhr and the rest of Germany, I can see a number of reasons for believing that our raids ought, in fact, to be producing more results than the German.

This is due to a complete difference of approach to the subject of bombing by ourselves and the Germans. The Nazi urge to combine terror with destruction called for daylight attack, and the German tradition called for massed formations. Daylight raiding, in its turn, demanded a strong fighter convoy. In preparing for this style of attack the Germans concentrated on mass production of both planes and pilots. This resulted in the standardization and simplification of the former, and notably in the elimination of many expensive and complicated instruments. It is reported that only one plane in five, in the commonest German models, carries a full set of instruments. Four out of five of their pilots, therefore, need only be trained how to fly a plane and then sent off to "follow the leader". All the time and gasoline needed for teaching long-distance navigation, especially by night, are saved.

The British went at things in quite a different way. They planned to attack in moderate numbers, but constantly, and by night. They made a specialty of long-distance night navigation, and expended gasoline and training time without stint in teaching their pilots this science. Now consider the advantages they enjoy. They arrive over their target undisturbed. Since the Germans rarely send up fighters at night, they have only A.A. fire to go through to plant their bombs.

The situation around Suez will remain critical after the question of invasion of Britain is settled for this year, and possibly for this war. But the Battle for Suez is a great deal less important than the Battle for Britain, which it appears we have almost, but not quite, won.



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on the objective. Vicious as this is, it has been proven in Britain to be only about one-tenth as effective in shooting down raiders as a strong fighter defence. On the occasions when our bombers have met German fighters at night, that four-gun, power-driven turret in the rear of our Wellington and midships in our Blenheim has demanded their utmost respect. This turret, which the Germans have so far failed to imitate, is one of the real technical scopes of the war.

Able to find their target with much greater certainty, the British fliers have also shown a much greater inclination to press home the attack. Here we find perhaps the greatest difference between British and German bombing. I won't say it is entirely a matter of courage. Our fliers are told to go through and bomb their objectives, regardless. The Germans are trained to do as much damage as possible and get away, something like the *Graf Spee*. So we read over and again that the Germans stayed above the A.A. fire and dropped their bombs only approximately on the target area, or if pursued, jettisoned their load and streaked for home. Our men, if they find their target, face the mathematical chance of being hit by A.A. fire and go right in and place their bombs squarely; if they can't find them, they bring them home.

Eastern Mediterranean

In the winter there will be far more good bombing weather over Germany and the Continent than over fog-bound Britain. So that if Hitler chooses to adopt our tactics and engage in an all-winter aerial slugging match, there seems no reason to fear that we will lose it. And if he passes up invasion, will he have any choice but to engage in such a slugging match, as long as the R.A.F. is slugging at him?

This has a bearing on his alternatives for the winter. He hasn't the entire initiative any longer. He won't be able to divert the major part of his air force to another theatre of war as long as the R.A.F. keep worrying him on the Channel front and on his home front. Nevertheless a glance at the map will remind one of how conveniently he could switch a part of his air and land forces down through Italy and into Africa. Greece and Crete would provide ideal stepping stones for an aerial invasion of Syria, where French morale is low and his missions may already be preparing the way, as all through the French Empire in Africa. Germany and Italy could concentrate force in this theatre of war much more quickly than Britain could. For instance, though Britain could fly extra bombers to Egypt via Malta, or even non-stop, fighters would have to be shipped either under heavy convoy through the Mediterranean or all the way around Africa. Even so, they would have to run past the Italian position on the Red Sea, which might become a good deal more dangerous if German air reinforcements were sent there.

The situation around Suez will remain critical after the question of invasion of Britain is settled for this year, and possibly for this war. But the Battle for Suez is a great deal less important than the Battle for Britain, which it appears we have almost, but not quite, won.

THE CAMERA

Photographing Shafts of Light

BY "JAY"

RECENTLY I had the pleasure of viewing a number of salon prints by the famous Canadian camera artist Mr. J. H. MacKay. One, an interior of the Union Station in Toronto, held particular interest for me, in as much as the dominant feature was illuminated and dramatized by a long shaft of light entering from a very high window and shooting down to the floor.

Directed sunlight, or beams of light have a special attraction for me. There is a fullness to their beauty that can be recorded by the camera better perhaps than any other medium. Quite often a commonplace scene can be made one of real beauty by a shaft of sunlight piercing a hazy atmosphere. It was just such a shaft piercing the hazy atmosphere of this great concourse which inspired Mr. MacKay to make a print that has found a place for itself in most of the salons in both hemispheres.

Directed sunlight, or beams of light have a special attraction for me. There is a fullness to their beauty that can be recorded by the camera better perhaps than any other medium. Quite often a commonplace scene can be made one of real beauty by a shaft of sunlight piercing a hazy atmosphere.

H. D. Keilor, writing in an issue of the Home Photographer, says, "some of the most striking sunshaft effects are to be found in big railway stations, where the constant presence of smoke produces the right atmosphere for showing up the sunbeams to advantage. But whenever the sun is shining on a slightly misty morning, sunbeams appear almost everywhere out of doors. In the streets, and various odd corners of towns, wonderful pictures can be made when the atmospheric conditions are suitable, and amongst trees sunshine effects on a hazy morning are often very striking. Often these sunshafts are most elusive, and have to be photographed from exactly the right angle, otherwise their outline will be almost invisible in the picture."

Mr. Keilor goes on to say that at night time, too, beams of light shining out of the darkness have their attractions and offer possibilities for attractive pictures.

Well, I asked Mr. MacKay how he succeeded in getting his wonderful results, and he surprised me by saying that he always used a fast ortho' film. I had been under the impression that nothing but panchromatic would do the job. As a matter of fact I find that I have been under a false impression regarding the infallibility of pan'. Orthochromatic has possibilities away beyond those of my knowledge, and when I have got used to using it a little more, I shall pass on some of the information. But to get on with sunshafts and their recording. A fairly long exposure is necessary because so much of the subject matter will be in

AT HOME

JUST drop in unexpectedly. And chances are that you will see Me fetchingly attired in A bathrobe and a safety pin

A hair-do the reverse of neat. Enormous slippers on my feet—Just what the well-dressed woman wears

When she is taken unaware!

RAY RICHSTONE

deep shadow, and because the contrasts are very strong, back lighting should be used.

Modern materials have all of the requisites for this work, and a 4.5 lens with a speed of from one tenth to one twenty-fifth will be found to be about correct.

Why not try a few of these shots; it means getting up early in the morning, but too many of us are a little afraid of the rising sun, and if we had a real excuse for meeting old Sol when he first appears over the horizon, we might find that a lot of real enjoyment had been neglected as well as that always elusive masterpiece.

THE SCIENCE FRONT

What About the Gas Attack?

BY H. DYSON CARTER

SOME who were in France in 1915 will remember the German fable, widely believed in the United States, that the Allies first used poison gas. Unlike the made-in-Berlin story of today the tale had at least some foundation, for the high explosives melinite and lyddite, when laid down in continuous barrages for days on end, could develop an appreciable concentration of nitrous poison gases. And the navies were so familiar with this effect that Schwartze in his authoritative "Die Technik in Weltkriegen" tells how German sailors were forced to use respirators in the Battle of Skagerrak, although the British were not firing gas shells. These historical facts give us a clue to the gas alarms that have sounded in the press quite regularly ever since the 1936 battles for Madrid. But the truth is that the nations have not used poison gas since 1919, except Italy in their Ethiopian campaign.

If no gas has come, why not? And as the British are grimly wondering: If it hasn't come yet, will it? One million new type "dust" masks have just been received in England, and the commentators are predicting new blitzes.

During the Spanish war it was said that Hitler and Mussolini, defending Spain against democracy, refrained from using gas because of world opinion. We know now, as we should have known after Guernica, how ridiculous that was. The friends of Franco had two much stronger arguments against chemical warfare. First, poison gas is one of the most ineffective weapons ever invented. Second, explosives are much cheaper, safe to handle, and kill or wound instantly. The sceptic should note that in all armies in the first world war, casualties averaged about three percent for gas but almost forty percent for other weapons, despite the claim that in 1918 almost half of all shells carried poison gas.

Chemical warfare has one crushing advantage. Every new poison, or method of dispersing it, is a new "surprise" weapon against which there cannot be any defence for a considerable time. Hence it must be admitted that the odds are in favor of chemicals being used in the assault on England. A good many new poisons were developed in the decade following Versailles, and German post war texts devoted much space to their possibilities. These are worth considering for more than pessimistic reasons. Goering found out that gravity works on bombs dropped over the Ruhr just as well as over the Midlands.

Wiping Out Armies

The best remedy for gooseflesh which has been brought on by sensational stories of super-gas is the awful boner made by a gentleman hired to tell the Whole Truth about gas war for the renowned Carnegie Endowment for International Peace. This "expert" reported that a gas called cacodyl cyanide could wipe out whole armies at a single sniff. While cynics might aver that this was indeed the most promising peace plan evolved by the Endowment idealists, scientific men get their laugh from the fact that cacodyl cyanide was first proposed for warfare in 1879! So it is good to keep a cool head and not to scoff at chemists when they tell us that there can be few new poisons under the sun, although there may be new and devilish ways of using them.

The method of wholesale dispersion of chemicals by aircraft is one of the real potential advances in gas war. It makes possible the production of high gas concentrations in exact positions and at the most favorable moment. In a far flung sporadic war, such as that in the Near East, it might prove tactically important. But against civilian populations, so long as there

remained danger of reprisal, the chemical arm is not worth much because both sides have "secret" gases, i.e. new combinations and formulas, and the R.A.F. will certainly drench the streets of Berlin a few hours after the first gas rolls in with the London fog.

As for surprise formulas, these fall naturally into two classes: chemicals which are highly effective in themselves, and those which are accompanied by agents designed to render gas masks useless. True gases like chlorine were early abandoned because the concentration required for effectiveness was so high that enormous quantities of chemical had to be released. But now we have tongue-twisters like diphenylecyanarsine, of which one five-thousandth of a gram (perhaps a house fly's lungful) inhaled over a sixty second period will put a man out of action for an hour.

Against this we have the protection of modern respirators. They keep diphenyl out. Still, there is not much comfort in this. Diphenyl and its unholy chemi-

cal cousins will not come alone. With them will be non-poisonous substances to ruin the gas mask. Thus ordinary oil mist, of the type used to imitate fog in Hollywood, will put a respirator out of action very quickly. The oil particles cling to the protecting powdered carbon in the mask canister, covering its active surface, and soon the real poison gases get through to the victim's lungs. Even dense black smoke which is rich in fine carbon will clog up the lifesaving carbon already in the respirator and make it unbreathable, gradually smothering the wearer until in desperation he tears it off only to perish with the first breath.

Perhaps the most diabolic of all scientific warfare possibilities is the use of gases or mists which are perfectly harmless, or only mildly irritating, unless the victim is wearing a standard gas mask! It is understood that many such chemicals have been developed and their principle of operation is simple. It is based on the fact that any "adsorbent" (spelled with a "d" and not a "b") such as powdered carbon, which has the power of stopping and holding certain

poisonous gases, is chemically active enough to bring about changes in the composition of some substances. During the last war experiments were begun with nickel carbonyl. When this relatively harmless stuff comes into contact with respirator carbon it is immediately decomposed into nickel and carbon monoxide; the latter being the familiar auto exhaust poison. Tasteless and odorless monoxide would kill the mask wearer without any alarming pain. In this case it would be literally a case of the mask causing death.

The worst the chemist can offer in the field is the triple-threat combination—something like a sundae concocted by Borgia. It would be produced by the explosion of a murderous bomb; in addition, it would carry an agent serving to plug up any respirator; finally, like hydrocyanic acid, the poison would snuff life out instantly.

There is one consolation. Seventy-five years ago an eminent chemist said of the then unborn gas warfare: "Who that had to die from a blow would not rather place his head under a steam hammer than submit it to a boy armed with a drumstick?" This time gas will be quick. If ever it comes.



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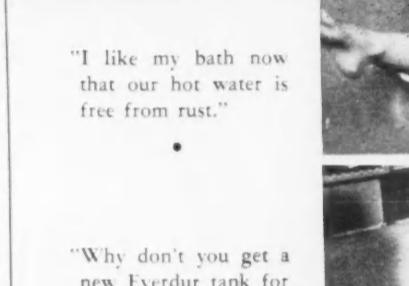
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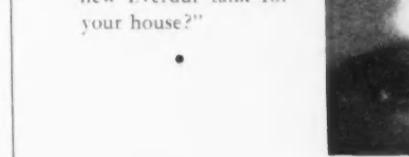
"The hot water used to be all rusty. Mother had the man come."



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Fashion doesn't care a pin
For comfort, heaven knows
So while we may, let's revel in
The freedom of the toes!

BACHELOR GIRL

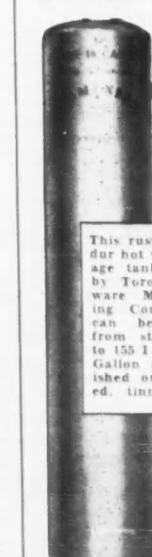
IF I SHOULD meet a man who seems
The answer to my fondest dreams
It isn't long before I find
He's bigoted or beauty-blind

Or dull, devoid of humor, crass—
No quality alas, alas
Endears a man so much to me
As unfamiliarity!

MAY RICHSTONE

movement of British capital, British industry and British workers to this country; so that in the long run we may have 25,000,000 instead of 11,000,000 people to develop our half continent of natural resources, and 25,000,000 people to bear the burden of taxation and lift the country out of debt. Canadians should enthusiastically embrace the present opportunity of obtaining British children during the war, and then organize for the promotion and reception of as many British school children as can be accommodated and financed. After that comes the question of general immigration after the war.

Our economist from McGill University is a great believer in such historic development companies as the Hudson's Bay Company, the East India Company, the Canada Company and other organizations of the same kind which in earlier days acquired concessions in outlying parts of the Empire in return for which they made great contributions to the



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CANADA IN TRAINING. His Excellency, the Governor-General, has been making a tour of the militia camps of the Dominion. Here he is shown at Petawawa.

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THE LONDON LETTER

The Long Vacation's Gone, Perhaps Forever

BY P.O'D.

Aug. 12, 1940.

ONCE upon a time there used to be such things as Bank Holidays, grand hilarious days when all London proceeded to empty itself into the countryside, and the countryside did its best to concentrate itself in Town—such parts of the countryside, that is, as were not too busy robbing the Londoners who had so joyously descended upon them. It was a general exchange of populations, on the best Hitlerian model, only in this case it was great fun—great but a little exhausting.

August 5th should have been August Bank Holiday, the biggest of the year. But this time there is no Bank Holiday. And it begins to look as if there weren't going to be any August vacations either—except such little odds and ends of vacation as don't really count. Even if there were any vacations to be had, there is no place to spend them. The seaside is barred—all the seaside within reasonable reach of London—and the rest of the rural resorts are packed with refugees of one sort or another. The only thing to do is to stay at home and work; and that is what most people are doing.

Even the lawyers have given up the Long Vacation! I put an exclamation point after that statement to emphasize its startling, its revolutionary character. Not in hundreds of years has such a thing happened. Ever since the days of Edward I judges and barristers have allowed themselves ten long weeks—lucky dogs!

Now it has been abolished—temporarily, it is true—and it seems unlikely that it will ever be restored. A good thing, too! Ten weeks' stoppage of the course of justice is really indefensible—especially with the Courts calling for more and more judges to deal with the piled-up cases. No wonder they're piled up!

Originally the Long Vacation was instituted, not to give judges and barristers a whole summer of leisure, but to furnish, as old chroniclers remind us, "a time for prayer, of the appeasement of quarrels, and the gathering in of the harvest". Rather a nice idea, though hardly suited to modern conditions.

The lawyers, however, have clung to it ever since—who can blame them?—in spite of public criticism and protest. But this is the sort of privilege that, once lost, is not likely to be recovered. The Long Vacation may well go down in legal history as one more ancient institution that has been killed by the war. Judges and barristers will grieve and groan, but I don't imagine that anyone else will.

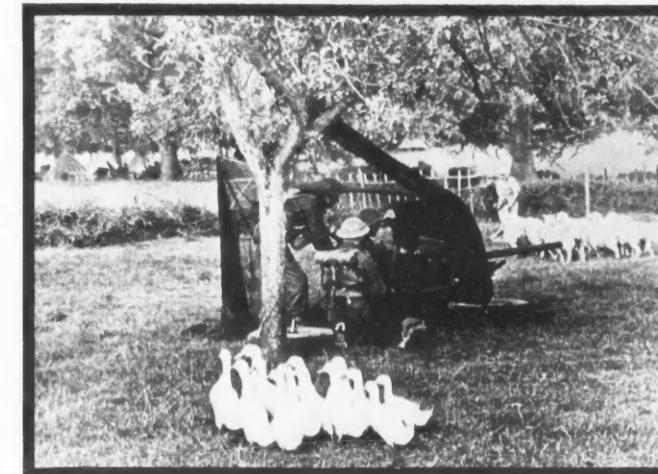
Grouse Shooting Still

As some small compensation perhaps for the loss of August Bank Holiday, grouse-shooting began last week (August 5th)—a full week earlier than in other years. A special Order in Council had been issued to that effect. So up on the northern moors guns here and there are banging away, no doubt, and the pretty birds tumbling down into the heather. But guns are likely to be very few—and cartridges as well. Powder and shot are reserved nowadays for larger, if scarcely nobler, game. And most of the sportsmen are marching about in battle dress.

The non-sporting reader may wonder why it should be necessary to shoot the birds at all, and why they couldn't be left to increase and multiply—the only unharassed creatures in these islands. But the point is that they increase and multiply too much, and have to be thinned out.

For the same reason pheasant-shooting has been advanced a full month, from the first of October to the first of September. The sportsman who manages to wangle a few days' shooting—and the necessary cartridges—can regard himself as performing an almost patriotic duty, thinning the game and contributing to the national larder.

One slightly amusing feature of the new regulations is that the law forbidding the shooting of game on Sundays has been suspended for England and Wales, but not for Scotland. Apparently one part of the country is resolved to remain godly, war or no war. But, of course, even the most



CANADIANS IN WAR-TIME ENGLAND. A Canadian anti-tank gun camouflaged in an English orchard among geese and sheep. Canadian troops now hold an important sector of Britain's defences.

virtuous church elder, compelled to wander across a moor on the Sabbath, might feel obliged to smuggle a gun along—oh, well, just to defend himself, if a vicious cock-grouse should attack him. I have heard that it is not unknown.

"Rule, Britannia"

Just two hundred years ago "Rule, Britannia" was given its first public performance—at a garden fete at Cliveden, now the home of Lord Astor in Buckinghamshire. The fete was given by Frederick, Prince of Wales, and included a masque played in the lovely sylvan theatre, which still exists. The masque was composed by James Thomson, the poet of "The Seasons", and another Scotchman, David Mallet. "Rule, Britannia" was sung at the end of it; and it has always been a question whether it was written by Thomson or Mallet—more probably by Thomson.

An odd thing about these national anthems is that the authorship is so often in dispute. "God Save the King", for instance, is generally attributed to Henry Carey. He is English enough, certainly, but it has never really been cleared up whether he was really the author of it, or merely lifted and adapted it. The Germans lay claims to it—but then, of course, they lay claims to almost everything.

There can at least be no doubt about the entire Britishness of "Rule, Britannia". The words were by Thomson or Mallet, both Scotch, and the music by Thomas Arne, who was thoroughly English, in spite of his German-sounding name. So we are perfectly entitled to roar it out at the top of our voices—if we know the words. Hardly anyone does, except for a line or so here and there. But we can all come in strong on the "Britons never, never shall be slaves". Most of us do just now. It has acquired a new meaning.

One interesting suggestion is that the first few notes of "Rule Britannia" should, in honor of the anniversary, be used as the interval signal by the B.B.C. Ever since the sound of Bow Bells has been given up—now that church bells are to give warning of the arrival of parachutists—we have had a studio clock with a most sepulchral tick-tock.

People don't like it. They gives them the creeps. It has been dubbed the "ghost in goloshes", the "death-watch beetle", and the "march of the Gestapo". Now the B.B.C. are out to devise a new signal, which is to be heard from next Sunday onwards.

In the meantime, all sorts of suggestions are being made—one of them that the refrain, "Rule, Britannia", should be used. It is appropriate, and it has the apt merit that the opening notes, played in the key of G major, are B, B, and C—or so musicians assure us. Neat, isn't it? So why not?

The Tax Juggernaut

Figures affect people differently—any kind of figures, but at the moment I am talking more especially of the mathematical kind. Take British income tax, for instance. We all know that it stands at Eight and Sixpence in the Pound—with a ferocious super-tax which, after an income of £20,000

has been reached, leaves a man hardly Two Shillings in the Pound for himself. But why should we worry about the people with more than £20,000 a year? They ought to be able to scrape along all right.

What I mean is that the income-tax percentages have very little meaning for most of us, until we work them out in terms of actual incomes—or get them worked out for us. And that is what Sir Frank Sanderson did in Parliament the other day. He tackled the Chancellor of the Exchequer about the burden of direct taxation, and gave some very instructive—not to say, horrifying—examples of the way it works out.

Winston Churchill's salary as Prime Minister is £10,000 a year. What he actually gets out of it is £3,873. This, of course, leaves out of account his quite considerable private income. But he enjoys an even smaller proportion of this, as the increased super-tax takes most of it. In order to have £10,000 a year really his own, he could spend as he pleased, he would require a gross income of £68,000. All the rest would go to the income-tax collector—modest fellow!

Merely Cabinet Ministers, with their paltry £5,000 a year, manage to save £2,600 of it. Lord Haworth, the Chief Justice, whose salary is £8,000, actually gets away with only £3,500. And the poor Archbishop of Canterbury, who has two palaces to keep up, one at Lambeth and one at Canterbury, has to do it on £4,733 out of a salary—sorry, stipend, of course!—of £15,000.

When Sir Frank Sanderson spoke of the "burden" of direct taxation, he was being guilty of an understatement. It isn't a burden, it's a juggernaut. And yet the chief criticism of the new Budget—wide-spread criticism, too—was that it wasn't nearly heavy enough! There are many kinds of courage, and this is certainly a very impressive kind. If I were Hitler, it would give me some horrid dreams.

Anti-Waste Campaign

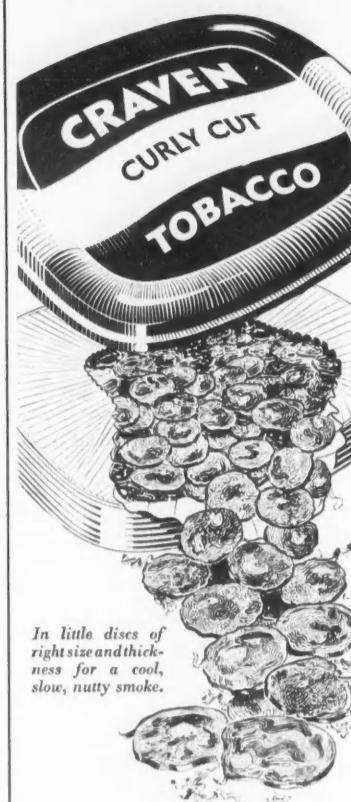
Talking of waste, the Government has inaugurated an anti-waste campaign. An Order has been passed making the waste of food a crime punishable by fines up to £100 or three months' imprisonment or both. An excellent law, too—if it can be enforced. The Government had somewhat similar regulations in the last war, so I suppose they know quite well what they are about.

The difficulty is that "food-waste" is a highly relative and inclusive term. One person's waste may be another person's strict economy—or what he thinks is economy. Who is to draw the line? And how are the authorities to find out? Are we to have women running off to the police with reports that their neighbors or their mistresses have been letting food go bad, or feeding too much to the dog, or throwing into the garbage-can things that should have been kept for the table?

All these sins are expressly condemned by the new Order, and rightly. But the difficulty of detection remains—short of the encouragement of a universal system of spying and tittle-tattle and general cattiness. This would be intolerable, and the Government has, in fact, promised that nothing of the kind will be tolerated. There are to be no "food snappers", on the lines of "Cooper's snappers", as the social-enquiry agents of the Ministry of Information have been dubbed.

Perhaps the authorities are counting on the mere existence of the new law to act as a deterrent from waste. Perhaps it will, though in this respect English people are among the most wasteful in the world—partly from habit, partly from a natural unwillingness to bother, partly from sheer ignorance.

It is a familiar saying that the average French family could live on what the average English family throws away. It may even be true—but not in war-time, I imagine. There is one sure cure for wastefulness—a little uncertainty as to how much there may be for the next meal. It is apt to make the housewife look very hard and more than once at the left-overs.



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Established A.D. 1887

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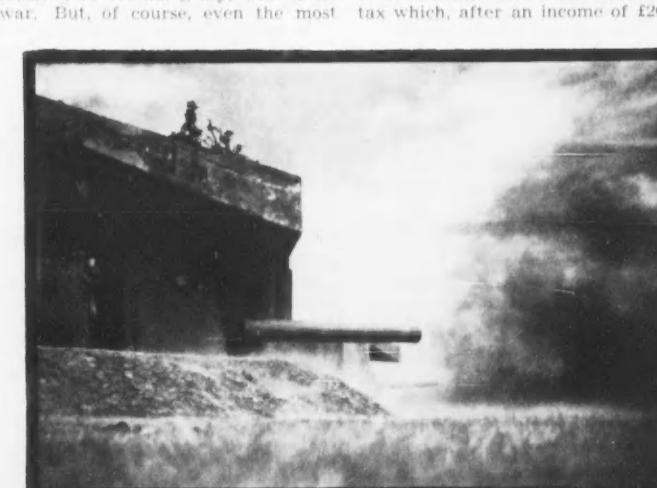
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ON BRITAIN'S EMBATTLED EAST COAST. A British battery returning the fire of German guns stationed across the Channel on the coast of France.

Safety for
the Investor

SATURDAY NIGHT, TORONTO, CANADA, AUGUST 31, 1940

P. M. Richards,
Financial Editor

German Economy Stronger but Not Invulnerable

BY WILLIAM BOWER

DANGEROUS as the financial policy of the Nazis is, it is very unlikely that it will involve them in insurmountable difficulties as long as the war lasts. After having discussed this here last week we want today to look into the important elements of Germany's present internal economic position with regard to raw materials.

A general summary based on the analysis may be anticipated: also in this sphere it would be unwarranted optimism to stretch into a pleasing picture certain weaknesses which can undoubtedly be found.

At the outbreak of the war it was obvious that Germany could, for economic reasons, not fight for long if hostilities became violent and remained so for any length of time. Now, hostilities became very violent, but only for a short period. And to the military benefit which has accrued to Germany from this angle through the collapse of France, must be added the benefit of France's enormous resources, natural and industrial, which have fallen to the Nazis.

Germany's Gains

It is hard to conceive of any shortage of direct war materials which could now threaten to impair the efficiency of the Nazi military machine as far as this efficiency is based on material. To be sure, they will have to solve problems of the utmost seriousness and difficulty in this connection, but it would be unwise for us to derive any comfort from this.

Moreover, through the conquests of France, Belgium, the Netherlands and Denmark the Germans have escaped for a long time to come the spectre of food shortage, a spectre, by the way, which would not have been very threatening even without these conquests.

The material which the Germans are throwing and will throw into the battle of Britain is largely being destroyed, or destroys itself, such as bombs. But in the following full they will have plenty of time and resources to make up for it. How long, depends partly on the policy and strategy envisaged by Churchill for 1942, and partly on things which may happen before. But these things, apart, of course, from the activity of the R.A.F., are incalculable, for instance German morale, and the policies of other countries which are at peace at present. If there are changes, they are likely to be in our favor. But, as we said, they are incalculable, and have nothing to do with an appraisal of Germany's economic position.

The picture of this position as we have sketched it so far is depressing, for us. But it has also another side to it. This other side tells of a stagnation from which the Nazis cannot escape. There is, however, no economic stagnation on this side of the barricades. What the Nazis have, and can maintain, is formidable, but it is, at the best for them, confined to its present size. What we have is not yet formidable, though near it, but what we can build is unlimited. When the immediate danger to Britain is averted, the march of our economic battalions can begin. But the German economic battalions will have to march on the spot. The end is clear.

Aluminium

For a long time to come the war will mainly be fought in the air. Three things are necessary for this: planes, machines, oil. The most important material for the machines is aluminium. The basic material for aluminium is bauxite. Germany has no bauxite whatever, but in 1938 she imported three-quarters of her needs from neutral countries whence she can still obtain it, chiefly Yugoslavia, Hungary, Greece. Most of the other twenty-five per cent came from France.

The German consumption of aluminium in 1938 was just over 175,000 tons. This corresponds approximately to 700,000 tons of bauxite. The three countries named above produced together one million tons of bauxite in 1938. There is no doubt that their production has greatly increased last year, and is still increasing. It is therefore quite likely that no difficulty arose in Germany through the falling away of France as a supplier of bauxite as long as France was at war.

In view of these figures it must be considered as a heavy blow that in 1938 France produced close on 700,000 tons of bauxite, enough to cover the total German demand. The following production figures of aluminium for several European countries are very significant in the light of political events. They refer to 1937:

in thousands of metric tons

Germany	128
Russia	45
France	35
Great Britain	19

The German raw material supply has been enormously strengthened through the conquests of France, Belgium and Holland.

France produces enough bauxite to cover the German aluminium requirements. If Sweden is considered to be under German influence, the entire iron ore deposits and iron and steel industries of Europe are now under German control.

However, they lack other metals which are necessary for the steel production. They also lack oil to run the industries at their command. But they have enough oil for their military machine. Taking a long view their economic position must weaken. But at the moment it is better than it has been for many years.

We must not think that the huge French bauxite output will cause an *embarras de richesse* to the Germans. German industry has for many years past been busily substituting aluminium, of which they had an ample supply, for other non-ferrous metals, supplies of which would become short in wartime. According to the Metallgesellschaft of Frankfort on the Main, a large smelting concern, the percentages of various metals used as compared with the total consumption of non-ferrous metals were as follows in Germany:

% of total non-ferrous metal consumption

1929	1938	
Aluminium	14	38
Copper	28	24
Lead	22	13
Zinc	33	23
Tin	3	2

In judging these figures it must be remembered that total consumption has risen greatly, and that therefore the reductions were more substantial than might appear at first glance.

Iron and Steel

Another field in which Germany has been enormously strengthened by her recent conquests is iron and steel. If we consider Sweden as being under German control, the iron ore deposits and steel industries of the entire European continent are in German hands.

With regard to iron ore there are outside the German orbit now only Spain and a few Spanish and French countries in Northern Africa which produce considerable quantities. But these countries account only for about fifteen per cent of the production which is available to European smelters.

Of course, there is a serious setback in that the Germans have no

nickel, manganese or other non-ferrous metals which are essential for the production of steel. From this point of view we need not be unduly alarmed at the iron ore deposits and the steel industries which are at the command of the Nazis. Our concern must lie rather with the reverse side of the medal in that these resources are no longer available to Britain. But the danger is not immediate as long as Spain remains non-belligerent, and also if this changed there would be no cause for panic.

Non-Ferrous Metals

With regard to alloys there is plenty of manganese ore in Russia. But it is doubtful whether Germany could obtain appreciable quantities thence, if only on account of Russia's needs for her own re-armament program. Other major producers of manganese are not accessible to Germany. They are India, South Africa, Gold Coast, Brazil, Egypt. There are certain deposits in Czechoslovakia, but they are by far not sufficient for Germany's needs. Moreover, the ore is of a very low grade.

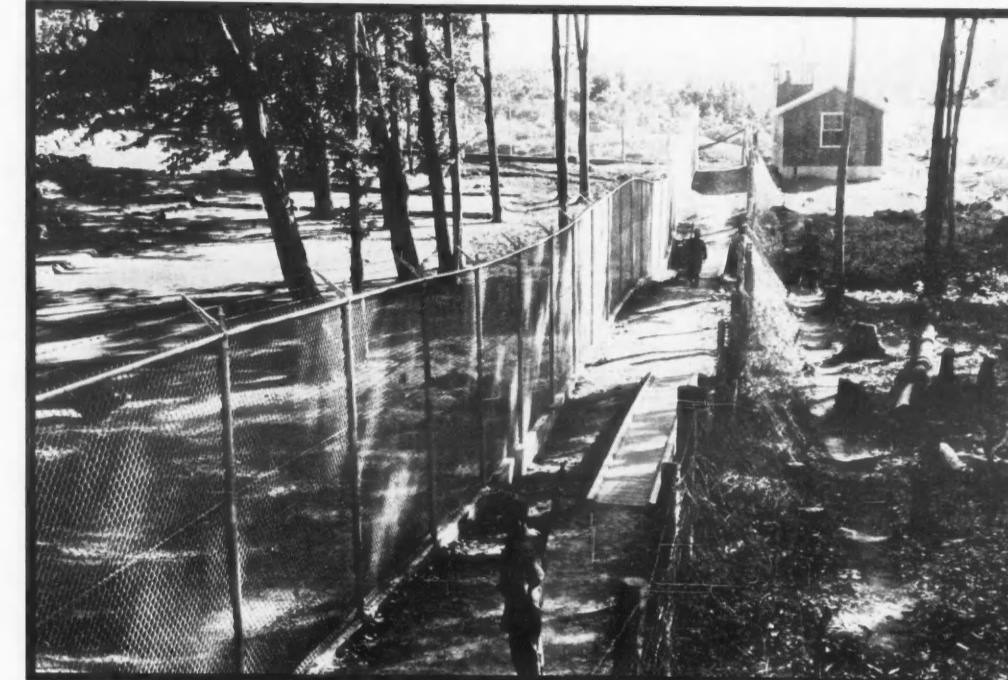
Germany's main supplier has been South Africa, whose ore has a particularly high content of the metal. It is interesting to observe the development of manganese ore output in that Dominion.

South African manganese ore production in thousands of metric tons

1932	0
1933	21
1934	66
1935	95
1936	258
1937	631

In 1938 the production fell off by about one-third.

Speaking of other non-ferrous met-



OUTSIDE THE COMPOUND. Barriers that must be passed if a prisoner wishes to make a break for liberty from a Canadian internment camp. The mesh fence, surmounted by its rows of barbed wire, is ten feet high. A second entanglement of barbed wire is outside this. Sentries patrol the space between them.

als which are not needed in the steel production, but which are vital in themselves, it is to be said that Germany has an abundance of zinc through the conquest of German-held Poland. On the other hand, she is completely cut off from all sources of tin. With regard to copper, Yugoslavia's production in 1938 was about six per cent of Germany's consumption, and the same country's lead output was about one-fifth of Germany's requirements. This means that a serious shortage of these three vital metals must develop sooner or later if the war extends over any length of time. It must, however, be taken into consideration that the Nazis are able to recover a certain quantity from scrap.

Although it is not possible to establish the figures, one can safely assert that this recovery may help them considerably without, however, solving their difficulties. But we must not overlook the fact that all this is a fairly long-range problem. However, as serious as it is, there is no harm in enjoying the fun if we hear that there is already great friction between Germany and Italy, in that they are bidding against each other in an endeavor to secure the Yugoslav copper supplies.

Oil

Equally as important as iron and non-ferrous metals is, of course, oil. Also here the picture has greatly changed through the German conquests. But there is a difference between the meaning of this change and that of other changes. The German synthetic oil production plus production from oil wells in Germany and Austria may be in the vicinity of three million tons this year. From Rumania another, say, one and a half million tons may be imported, and perhaps a few hundred thousand tons from Russia just as a token of friendship, but of no real importance.

All these quantities together would be considerably below the German, Austrian, and Czechoslovakian peace-time requirements. But there is no doubt that they go a long way towards driving Germany's war machine. Whether the Nazis attempt an invasion of England or not, they have enough fuel and other oil for military, aerial, and naval operations of the magnitude which it is possible for them to carry out under present circumstances.

But this is only one part of the oil picture. Militarily it has certainly changed in favor of the Germans, for their oil supplies would not have allowed them to go on very long at the pace they went in France. However, whether this change will really continue to act in their favor is a question which it is hard to answer at the moment. There are again a number of non-economic influences which are important here. But we must at least look at the problem.

The Rumanian production, plus whatever German production, plus whatever Russian exports, plus, finally, what some other European countries produce synthetically or from oil shale, is all that is available not only to Germany and Italy, but to the whole European continent with some exceptions: all that is available for war and peace purposes.

Blockade Problems

At the beginning of the war Italy, Holland, Belgium, Norway were neutral. They were, to say the least, above all of course Italy, a great leak in the oil blockade. Oil from overseas may further have flowed into Germany through the three Baltic States which are now Russian. All these holes are stopped now, but a new one has opened: Spain through having a common border, for practical purposes, with Germany. If Generalissimo Franco's complaints about British control of Spanish oil imports from America subsides, and the affair is settled amicably by negotiations between a number of governments as well as the management of the Texas Oil Company, then also this leak will be stopped.

However, Spain and Portugal will still be able to live on American supplies. The same applies to some South East European countries. But the whole of Western, Northern, and Eastern Europe as far as the Russian border, is dependent upon the trickle from Rumania, Russia, and Poland. To be sure, they will not fight over it as long as Hitler can help it. But the point is: how are the industries

to be run without sufficient oil, with, in fact, only a fraction of what is needed? How are the transport systems to function? It is a mystery. Anyway, we see another reason here why the French resources are a long way from being an unmixed blessing to the Nazis.

The incalculable items to which we referred in this calculation consist again chiefly of morale, this time of the morale of the conquered peoples. As long as the British blockade remains effective there must be great unemployment in France, Belgium, the Netherlands, Norway, on account of oil shortage. No matter how many corporative states Marshal Pétain may set up. How long will these peoples stand, not only Nazi occupation, not only starvation, but also the misery of unemployment, and also the sight of idle factories and thus no sign of improvement? This is one of the decisive questions in this war. Again, however, we must remember that this can in no wise detract from the fact that as far as Germany herself is concerned the oil problem is very serious, but not critical.

However, it is bound to become critical with the passage of time, and through destruction by the R.A.F. We must not overlook the fact that an oil depot destroyed in Germany is something very different from one destroyed in England. In the first case storage largely serves the purpose of accumulation, in the second case it merely serves its normal temporary purpose. Still more obvious is what it means to destroy a German plant for synthetic oil. Considering the time it takes to build such a plant, the loss of one blown up may safely be considered as irreparable during the war.

The Food Question

The last vital item in Germany's raw materials supply is food. Much has been said lately of famine. The prospect is, indeed, black. However, there would be, at least next winter, no need of starvation if one looks at the quantity of food available. Of course, the crops in many countries will be bad, and in other countries a large part of the land has been destroyed by fighting. Moreover, Europe as a whole has been a net importer of food to the tune of about ten per cent of its requirements. But taking all this into consideration, there would still be no actual starvation under different circumstances, though naturally a great deal of privation.

However, there are two reasons which make famine in certain parts of Europe likely: deliberate Nazi policy, and transportation difficulties. It can be taken for granted that the Nazis want to starve the subjugated peoples, at least for some time to come. And if they remove as much food as they can from the areas in question and take it into Germany, they most probably do so not only in order to feed their own population well, but also in order to starve the others.

No doubt they remember very well that they came into power on the crest of a wave of discontent in the German people. This discontent was largely caused by hunger; perhaps only relative hunger in that the Germans considered that no nation ought to be in peacetime in the condition they were in then. One could not reasonably have expected them to realize that their plight was largely caused by the policy of the semi-dictatorial Brüning administration which, in

(Continued on Page 9)

THE BUSINESS FRONT

A Pregnant Agreement

BY P. M. RICHARDS

CLEARLY there are important economic implications in the informal agreement for co-ordination of defence of the North American continent reached by Mr. Mackenzie King and President Roosevelt. For co-ordination of defence, to be really effective, must necessarily embrace co-operation in related matters of production, supply and finance. And such co-operation may be on so vast a scale as to affect the whole tenor of Canada's war effort.

The peculiarly political problems involved are made for both countries, and particularly for Canada, much less awesome and difficult by the exceptional nature of the relations between them. There is no question in any Canadian mind of the good faith of the United States. Probably no other nation in the world could make such an arrangement in such complete mutual confidence. The fact of the latter is evidenced in the nature of the agreement; it is only an agreement, simple and informal, not a treaty requiring ratification. Yet it is pregnant with

may be expected to make her whole war effort easier, more productive and more effective. One important field for improvement is that of finance, and it seems reasonable to assume that co-ordination must extend to this sphere. The situation here is that Canada stands urgently in need of U.S. funds to take care of purchases in that country. The shortage is due to the cutting of important overseas markets for Canadian wheat and other products by the war, and to the disappointingly small inflow of tourists this summer. U.S.-Canada defence co-operation may reasonably result in U.S. loans or credits to Canada, now blocked by neutrality legislation.

Ease the War Effort

Both Canada and Britain are in urgent need of machine tools for their munitions production. The shortage in Britain is acute. Both countries have big orders waiting to be filled in the United States, but they are held up by the precedence given to domestic requirements resulting from the United States' own armament program. The new co-ordination agreement will surely result in easing the situation here. In numberless other respects, the paths of supply and production should be smoothed. It should be possible, for instance, to assign production jobs to the particular industries best fitted to handle them, whichever side of the border they may be located. And, in respect of actual munitions production, it may be noted that the gains from co-operation will not be all on one side; Canada, while much smaller industrially, is also much further advanced as a producer of war and defence needs.

If a large-scale defence program is set in motion, as now seems to be in prospect, further stimulation of industry will result. Presumably there will be air bases, naval bases, much mechanical equipment, big coastal defence guns, anti-aircraft guns, shells, and a host of other things to be provided, besides, of course, additional defence aircraft. And Canada will have to carry out her part of this program without in any way impeding her overseas war effort.

Obviously the possibilities in all this are enormous. Not the least interesting subject for conjecture is the influence of such Canada-U.S. co-operation on Canada's future after the war. The need for defence will, almost certainly, not end with the war. Assuming that co-operation continues thereafter, how far might it in time extend?

Besides making Canada more secure against attack, defence co-operation under the agreement



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Dividend Notices



NOTICE IS HEREBY GIVEN THAT A QUARTERLY DIVIDEND OF ONE CENT AND THREE QUARTERS PER CENT (1 3/4%), being at the rate of Seven percent (7%) per annum, has been declared upon the preferred stock of the Company. The dividend will be mailed on the fifteenth day of September next, to shareholders of record at the close of business on the 31st day of August, 1940.

By Order of the Board,
CHAS. GURNHAM,
Secretary-Treasurer.
Valleyfield, August 21st/40.

The Montreal Cottons Limited

NOTICE IS HEREBY GIVEN THAT A DIVIDEND OF ONE PER CENT (1%), has been declared upon the Common Stock of the Company, and cheques will be mailed on the fifteenth day of September next, to shareholders of record at the close of business on the 31st day of August, 1940.

By Order of the Board,
CHAS. GURNHAM,
Secretary-Treasurer.
Valleyfield, August 21st/40.



Notice of Preferred Stock Dividend

A DIVIDEND of One and Three Quarters per cent (1 3/4%) has been declared on the Preferred Stock of DOMINION TEXTILE COMPANY, Limited, for the quarter ending 30th September 1940, payable 15th October, 1940, to shareholders of record 30th September 1940.

By Order of the Board,
L. P. WEBSTER,
Secretary.
Montreal, August 21st, 1940.



Notice of Common Stock Dividend

A DIVIDEND of One Dollar and Twenty-five cents (\$1.25) per share, has been declared on the Common Stock of DOMINION TEXTILE COMPANY, Limited, for the quarter ending 30th September 1940, payable 1st October, 1940, to shareholders of record 14th September, 1940.

By Order of the Board,
L. P. WEBSTER,
Secretary.
Montreal, August 21st, 1940.

Canadian Wirebound Boxes

LIMITED

DIVIDEND NOTICE

Take notice that the Directors of the Company have declared a dividend of thirty-seven and one-half cents (37 1/2c) per share on account of arrears on the date of a short dividend declared and paid on 1st October, 1940 to shareholders of record the close of business September 16th, 1940.

By Order of the Board,
J. P. BERNEY,
Secretary.

NOTICE OF DIVIDEND

Famous Players Canadian Corporation Limited

NOTICE is hereby given that a quarterly dividend of twenty-five cents (25c) per share has been declared on all issued and outstanding shares of the Company with our nominal or par value payable on Friday, the 27th day of September, 1940, to shareholders of record Tuesday, the 17th day of September, 1940.

By Order of the Board,
THOS. J. BRAGG,
Secretary-Treasurer.
Dated at Toronto this 22nd day of August, 1940.



DIVIDEND NOTICE

PREFERRED DIVIDEND NO. 9

Notice is hereby given that the regular semi-annual dividend of twenty cents (20c) per share has been declared on the Preferred Stock of the Company, has been declared on the date of a short dividend September 30th, 1940, payable on the 1st of October, 1940, to shareholders of record at the close of business on August 31st.

By Order of the Board,
J. H. GILLIES,
Secretary-Treasurer.
London, Ontario
August 23, 1940.

PIONEER GOLD MINES OF B. C. LIMITED

(NON-PERSONAL LIABILITY)

Notice is hereby given that a dividend of TEN CENTS (10c) per share (being at the rate of 40c per annum) on the paid up capital stock of the Company, has been declared on the date of a short dividend September 30th, 1940, payable on the 1st of October, 1940, to shareholders of record at the close of business on the 31st of August, 1940.

By Order of the Board,
ALFRED E. BULL,
Secretary-Treasurer.
Vancouver, B.C.
August 16th, 1940.

GOLD & DROSS

It is recommended that answers to inquiries in this department be read in conjunction with the Business and Market Forecast.

MADSEN RED LAKE

Editor, Gold & Dross:

I am considering making an investment in Madsen Red Lake, but before doing so would be pleased if you would tell me whether or not the present market price fully reflects the position of the company, in so far as one's reserves and liquid assets are concerned?

—M. E. H., Brandon, Man.

The current market quotation for Madsen Red Lake shares, of around 30 cents, appears to not only fail to reflect the position of the company from the points you mention, liquid assets and known ore reserves, but also to ignore the improvement in the company's ore possibilities as indicated by the encouraging results from diamond drilling to depth. The estimated present value of shares based on net current assets at the end of the last fiscal year, February 29th, along with the likely operating profit obtainable from known ore reserves at that date, works out at better than 45 cents a share.

All operations at the property are stated to be progressing satisfactorily and encouraging developments underground on the fifth level are reported. July was the best month since production commenced. Grade was higher and output of \$109,752 topped the previous record of \$100,752 in June.

WIREBOUND BOXES

Editor, Gold & Dross:

I would like to get your advice on some Class A stock of Canadian Wirebound Boxes which I am holding at the present time. A friend of mine has advised me to sell but I am inclined to hold the stock because as far as I can see it should keep on paying dividends and since it still isn't down to where I bought it, I think I stand to make a little profit on it. However, my friend has me worried and I decided to consult you—once again. Whom do you agree with?

—P. L. H., Toronto, Ont.

With you; for I think that the Class A stock of Canadian Wirebound Boxes is affording you an attractive yield—which it gives promise of maintaining for some time—and at present market levels has distinct possibilities of appreciation.



WHY DON'T YOU RIDE HIM, COWBOY?

In the first 3 months of the current fiscal year—which began March 1, 1940—operations were well above those of the corresponding 1939 period and compared very favorably with the final quarter of last year. While the company has received some war orders, I understand that the bulk of the improvement is a reflection of better Canadian business generally.

And with the wood and paper divisions working at near capacity, and a substantial volume of orders on hand, the outlook is encouraging. Of course it is still early to make any predictions about full-year earnings, but from the start the company has shown this year, it would appear that they should show their heels to 1939's \$2.35 per share.

Canadian Wirebound Boxes, Limited, manufactures wirebound boxes and crates, plywood cases, nailed boxes, bottled boxes, corrugated cartons, paper rolls and sliding drawer paper files. It controls exclusively several important patents for the whole of Canada. The financial position is satisfactory. Arrears on the Class A stock amount to \$2.25 per share.

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ALUMINIUM, LTD.

Editor, Gold & Dross:
Please give me some idea of what you think of the stock of Aluminium, Ltd. Will the fact that Norway has been grabbed by Germany have any great effect upon the company's profits? What are the dividend prospects?

—O. W. C., Regina, Sask.

The common stock of Aluminium, Ltd., is attractively priced at the present time: it has appeal both for income and for its appreciation possibilities.

Under the impetus of increasing Empire needs for aluminum, the capacity of this company's plants has been increased: prior to the increase, capacity was 100,000 short tons of metal annually; there is no marketing problem at the present time, for England has contracted to take the entire output. I don't think you can expect profits this year to run much in excess of 1939's \$20.57 per common share: the Excess Profits Tax and increased operating costs will limit any earnings gains. Suspension of operations in Norway should have no material effect upon 1940 operations.

As for dividends, I think you can expect a liberal policy; already in 1940 \$4.50 per share has been paid, against a cash disbursement of \$4.25 in 1939, plus a 10 per cent stock payment.

Aluminium, Limited, was formed in 1928 to acquire the foreign business of Aluminum Company of America. It is one of the world's major aluminum enterprises, accounting for from 10 to 15 per cent of the world output. Bauxite is principally secured from the company's own deposits in British Guiana. Plants are operated in Canada, Great Britain, India, Japan, Italy and other countries, with the British Empire ranking as the largest market. The financial position is strong.

SIGMA

Editor, Gold & Dross:
Any information as to what Sigma Mines' earnings are likely to be this year will be appreciated. Will the increase in taxes reduce them much from last year, or is the company likely to increase production?

—L. H. S., Buffalo, N.Y.

On the basis of production returns of Sigma Mines for the first seven months of 1940, and after making allowance for the increased taxation, earnings give promise of being slightly higher than in 1939. In the seven months ended July 31, gross recovery totalled \$1,314,157, and after allowing operating costs of about \$4 per ton and write-offs at last year's rate, net profits for the period of approximately \$512,000, before taxes, are indicated.

Sigma is exempt from Federal Income Tax until September 17 next, and is therefore liable only for Excess Profits Tax and Quebec taxes up to that date. Estimating taxes for the seven months at approximately \$65,000, net profits for the period, after all charges, would be roughly \$447,000 or at an annual rate of close to \$770,000, equivalent to 77 cents per share as against 72 cents last year. Further, the increase in the milling rate, which is expected before the end of the year may perhaps offset additional taxation in the three and a half months in which the company is liable for Federal Income Tax.

TRENDS IN THE FIELD OF INVESTMENT

Facilities for studying the frequent changes in the field of investment and the status of securities are available to this organization through its branches. These facilities are at the disposal of our clients at any of our offices.

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New Booklet

The GOLD MINES

... favourable effect of

NEW TAXES

An informative, encouraging Survey

COPIES ON REQUEST

Presenting an analytical review of the new tax schedule covering gold mining companies in Canada, our new booklet "Canadian Gold Mining Industry—the favourable effect of the new Federal taxes" will prove extremely interesting and reassuring to investors. Emphasizing the importance of the official premium of 10% on the price of gold, the survey indicates that in no case are the new taxes likely to reduce earnings below pre-war levels while in certain instances it is shown that substantial gains may result. This booklet will be of interest to all investors and particularly to those who own or are considering the purchase of gold shares. Copies will be gladly furnished on request.

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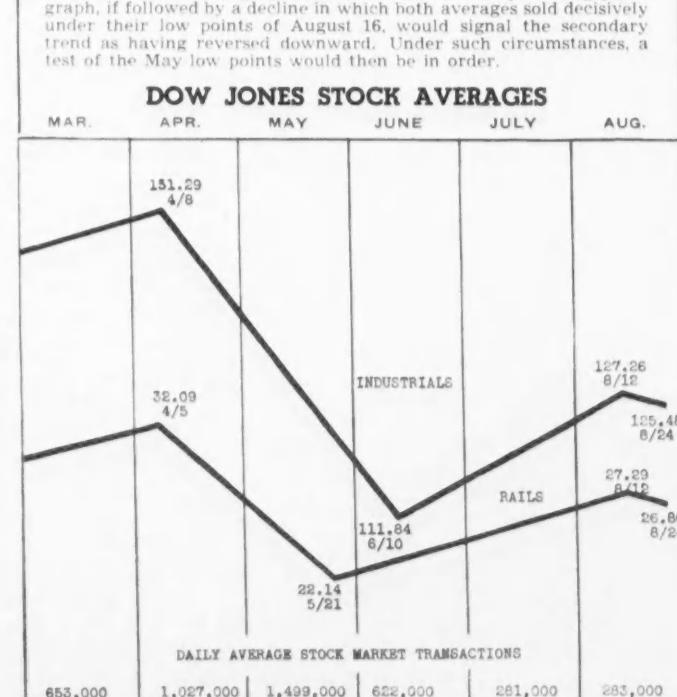
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CONTEMPORARY ART OF CANADA AND NEWFOUNDLAND

YOU are invited to visit the International Business Machines exhibit in the General Exhibits Building, featuring combined display of contemporary Canadian Paintings and the Products of the Company evolved by 500 Research Engineers and their Assistants.

* * *

A collection of International Paintings assembled by the Company is also on view in the International Section of the Gallery of Fine Arts at the Canadian National Exhibition.



(Continued on Next Page)



Britain is overlooking nothing in her search for raw war material. Left, miscellaneous scrap collected from householders in Kensington. Right, 90-year-old ledgers collected at a waste paper firm in London. All will be converted into arms.

GOLD & DROSS

(Continued from Page 8)

The mill which is now handling between 750 and 775 tons a day is being increased to 1,000 tons a day and may probably be gradually worked up as high as 1,100 tons, and the management hopes to have the increase effective by the year end. The present milling rate has been giving a production of around \$185,000 to \$195,000 a month, and at 1,000 tons daily, output should be close to \$250,000, while 1,100 tons daily should mean about \$265,000 a month. The shaft at Sigma was recently completed to a depth of 2,115 feet and eight more levels provided for development. So far little more than cutting of the station has been completed on any except the bottom horizon, which work indicated that the ore zone continued normal at depth, both as to grade and size.

INDIAN MINES

Editor, Gold & Dross:

I would like to ascertain if there has been any recent change in the outlook for Indian Mines Corp. What is the company's financial position?

—M. W. G., Kamloops, B.C.

No, I know of no recent change in the outlook for Indian Mines Corporation and it appears that better prices for base metals will be necessary before the directors are able to interest new capital. I understand the directors are still trying to negotiate a deal for the re-opening of the property which is located in the Salmon River area, Portland Canal district, but without success.

The balance sheet at December 31, 1939, showed cash \$13,67 and bills payable consisting of loans and accrued interest of \$17,613, and expenses of maintaining head office of \$700. In order to attract new financing it may be necessary to have a re-organization of the share capital, but directors state this matter will be considered when the need arises.



K. W. DALGLISH, C.A., Montreal, president of the Dominion Association of Chartered Accountants, who will preside at the thirty-eighth annual meeting of the Association at the Mount Royal Hotel, Montreal, 3rd to 5th September.

HARGAL

Editor, Gold & Dross:

I have been hearing a lot about a merger between Hargal Oils, Ltd., and Freehold Oil Corporation. I am holding some Hargal stock myself. What do you think of this merger? What do you think of Hargal stock?

—L. D. S., Calgary, Alta.

I think it is highly speculative. You must realize that this does not apply to the stock of Hargal Oils, Limited, alone, but to the stock of any natural gas company such as oil or mining and particularly so when the enterprise is in the development stage.

For the assets of Freehold Oil Corporation, Hargal would pay \$81,305 shares of capital stock. The assets of the former would include all its leases, 160 acres on the west flank of Turner Valley—some \$3,000 in cash, 25,000 shares of Coast Drilling Company and miscellaneous other assets. If approved, the sale would give Freehold a holding 1,200,000 shares of

Hargal. It would also leave enough funds in the treasury to pay for the winding up of the company should the shareholders decide to do so. Hargal directors value Freehold assets at \$80,131 and shares in their own company at 10 cents per share; this forms the basis of the transaction.

Reasons for the merger are that Hargal would have a larger diversification of Turner Valley leases which would result in operating economy and reduced overhead. Also, the companies are largely interlocked, have the same objectives, and both hold leases in Turner Valley. So the merger should benefit both.

CHEMINIS

Editor, Gold & Dross:

Any information you can give me as to the outlook for Cheminis Gold Mines, in which I have some shares, will be gratefully received. I was under the impression that Consolidated Smelters was meeting with interesting results and I now hear work has been stopped.

—B. P. S., Huntsville, Ont.

Consolidated Mining and Smelting Co., of Canada, which has been financing and directing operations at Cheminis Gold Mines, in the Larder

Lake area, has, I understand, suspended work pending a decision regarding further development. Work to date has indicated an estimated 321,607 tons of ore valued at close to \$2,000,000. The grade of the ore is \$6 per ton at \$38 gold, and a profit of around \$2 per ton is calculated provided a fair-sized mill is erected.

The ore is contained in three zones which have been explored by drifting and diamond drilling. The "C" zone appears the most important and tonnage in it is estimated at 229,070 tons grading \$6.08 uncut, but after allowing for dilution of 10 per cent. Diamond drilling below the 525-foot level is reported to have given some interesting results and if additional underground work is planned, deepening of the shaft will probably be done first.

A total of \$201,343 has already been expended by Consolidated Smelters on underground development. Of this amount half is in the form of a loan, to be repaid out of profits, while the balance was provided for 1,132,408 shares taken down under an option agreement at prices ranging from five to 17½ cents per share. At present Cheminis has 2,782,399 shares issued out of its authorized capital of 3,000,000 shares.

Western Oil and Oil Men

BY T. E. KEYES

THE McColl Frontenac Oil Company announced last week that it will commence drilling operations about September 20 on its 10,000-acre block of land on the Moose Dome Structure. The announcement is considered both in oil and government circles as one of major importance to Alberta and the Dominion, which is now encouraging development of new oil fields as a part of the national war effort.

Desirous of co-operating with the government, in the matter of increasing crude oil supplies within the Dominion, President J. A. Wales visited Alberta to survey the situation. On his return to Montreal he set up an exploration department under the direction of Edward H. Hunt, who had spent several years geologizing possible oil areas in the prairies.

The Moose Dome Structure is regarded as a semi-proven one, as two wells drilled on it encountered, in one case, gas heavily laden with naphtha, and in the other a high gravity crude. However, neither well has as yet been classed as a commercial producer by government officials. The province holds a 10 per cent. royalty on all acreage in the Moose Dome area. A new oil field at Moose Dome would also mean a great deal to the city of Calgary as it is located 45 miles due west of the city.

The location for this key test well will be about three miles from the Moose Oil No. 1 well, which is presently capable of producing considerable naphtha.

The Moose Dome Structure was first discovered by the Dominion Geological Survey in 1905, and in 1928 Wm. Pilling, of Calgary, interested the Timmons mining interests of Montreal. They financed the drilling of the first well and built a road to the structure, etc. Their total expenditure was around \$200,000.

The McColl Frontenac Company came into the picture last winter, when it secured options on a large block of acreage in this area. The company immediately put a geological party of six experienced geologists to work geologizing the structure. After over four months of intensive geological work the present well site has been selected by E. H. Hunt, head

of the exploration department of the company. A road is now being built to the well location.

The area is traversed by both the Elbow River and Canyon Creek, and from a geological standpoint the structure is classed among the wonders of the world, as the various formations of the earth are exposed along the canyons or banks of the rivers. In the Turner Valley field the chief formations are Belly River, Benton, Blairmore, Kootenay or Coal, Fernie and Paleozoic Limestone from which oil and gas is obtained. All these formations can be seen along the Elbow and Canyon Creek.

The depth of the lime, in the various Turner Valley wells, depends on their location on the structure. In the Moose Dome field, the exposed Paleozoic limestone beds vary in both thickness, porosity and marine fossils or petrified fish. In some places the lime resembles a very porous sponge, while a few feet away it may be very dense. This explains why we have large and small producing wells in the same areas of Turner Valley. In fields where production is obtained from limestone, every well is more or less a wildcat well, as there is always the possibility of the drill penetrating the lime in a dense spot, resulting in a very small producer, or in some cases, such as at the Brown No. 3 and Dalhousie 8 in the Turner Valley field, in scarcely any production.

Production at Moose Dome will be from Devonian or Ordovician limestone. The latter formation, sometimes referred to as Trenton Lime, occurs in the Pretoria, Ontario, field and also in the Illinois field. The Devonian lime comes to the surface at Moose Dome and drilling will begin in it. In the Turner Valley field it is below the Paleozoic lime, or in some cases over 10,000 feet below the surface.

However, the Moose Dome is not the only semi-proven area that is due for extensive development. According to Dr. G. S. Hume, senior oil geologist with the Dominion Geological Survey, who has just returned from a trip through the Vermilion area, this field is due for further development.

The Bottleville No. 2 well, drilled on this structure by Franco Oils Ltd.,

was put on production on May 13 last, and Dr. Hume says it is still producing steadily. The producing sand was contacted at the shallow depth of 1,853 feet. Three other wells have been drilled on this structure by the Franco Co., two of these are large gas producers and the other, known as Battleville No. 3, encountered crude. I am told that there are in all, 6 crude oil sands at the Battleville No. 3 well. There are also water sands in between these oil sands, and I am advised that the following drilling technique has been decided upon for this area: The wells will be drilled through to the lower producing sand, then the casing run to the bottom of the hole, and then cement, under heavy pressure (commonly called a squeeze cement job) will be forced up around the casing, cementing off both the water and oil horizons. The casing will then be perforated opposite the producing oil sands, while the water sands will remain cemented off. By following this procedure one well will drain all 6

by local structures, and that wells not closely related to local structures are likely to have little success. This warning is one which investors should heed, especially if the field continues its rapid development program and present success, as there is always the possibility that unscrupulous promoters will obtain acreage located near the structure, but from the standpoint of obtaining oil it might nearly as well be located a thousand miles away.

I should stress here that the locations of the present successful wells were all made on the basis of the results of a seismic survey. Possibly I should also mention that although the structure had already been surveyed by a seismograph crew, the Franco-Thorn interests, before making the locations for the proposed 10 wells, had another seismograph party recheck their well locations.

However, the fact that the best geological and geophysical information has been obtained is no guarantee to investors that oil will be found. In areas where the fairway of the field is defined, one is almost certain of obtaining production and in most U.S. sand producing fields, banks will advance the money for drilling wells so located.

Production from the Turner Valley field for the month of July showed an increase of nearly 200,000 barrels over June, with the limestone wells producing 824,091 barrels in July. This field will soon have 2 new producers, namely the Southwest Petroleum No. 4, and Pacific Petroleum No. 5 well. This production is badly needed as the refinery demand is about 5,000 barrels a day above the field's production.

Some of the small refiners in Saskatchewan are pretty sore about this crude shortage, and they are trying to find the culprit responsible for this situation. As I see it, the culprit is the extra large crop and our war effort, both of which have increased petroleum requirements, away above normal, on the prairies. However, some people seem to think a big oil company is the culprit, and that Oil Controller Cottrell, if not actually an accessory, is not in any case a deterrent to the culprit. It is pointed out that the controller's office is right in Toronto, and that he is in close touch with the big oil executives, and has even taken some of his technical advisers from their staff.

Well, in my opinion, if he wanted competent and experienced advisers, the only place he could get them, with possibly a few exceptions, would be from the major oil companies.

As for consulting the executives of the major oil companies, his job demands that he consult them. However, one thing that I think he should do is assure the investing public that he will take the production of all crude produced, and set a price for the different grades. For instance, recently I have had letters from investors wanting to know what price the controller would pay for oil produced in certain fields.

As this is written, I received one from Vancouver, which says in part, "I am thinking of investing in Buckley Oils. This company has no connection with the big companies, and it is possible that they would not buy our oil, should we bring in a big field. Can the oil controller force the refining companies to take this oil and will he do it, etc.?" I have read the order-in-council setting out the powers of the controller and he can do anything he pleases about oil in Canada.

While the controller has made general statements as to taking all oil produced, I think it would give investors much more confidence if he would set a price, say for oil from the Red Coulee, Del Bonita, Wainwright, Battleville, and Ribstone fields. I admit that as yet the production from these areas is scarcely worth speaking

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CANADA PERMANENT Mortgage Corporation
Head Office, 320 Bay St., Toronto
ASSETS EXCEED \$69,000,000

German Economy

(Continued from Page 7)

order to prove the unworkability of the reparations policy, depressed German economic conditions more than necessary.

Be this as it may: the outcome was Hitler, and it was so because a starving people never develops a revolutionary spirit, and grasps any straw. This success of theirs the Nazis are trying to repeat in the conquered countries, and therefore their policy of starvation. They hope to crush the spirit of these nations so that in the end they submit to Nazi tyranny as meekly as the Germans themselves did. They overlook, or, anyway, they have to overlook in order to make the best of it, that there is not only the question of government involved here, but also the question of foreign domination. A discouraged nation may submit, for some time at least, to any form of government if it has no democratic tradition. But it is one of the fatal mistakes of the Nazis that they try to apply this to subjugated nations.

A One-Way Traffic

There is, secondly, the question of transportation. The West and Northwest of Europe is under the German heel. They can take anything they like from these countries, and pay for it with worthless money or bonds. But in the South-East they have to pay with exports. If they can manage to maintain rail connection between, say, Holland and Rumania, they will certainly make it a one-way traffic, in that they ship Dutch iron for which they pay with scrap paper, to Rumania, and get oil in exchange. But they will certainly not ship things into Holland.

To sum up these observations with regard to Germany's present raw materials position: it is, considering the circumstances, as sound as could be expected. But it must relatively deteriorate with every day that passes. If the blockade can be maintained on its present level of efficiency until the time when the British counter-offensive, combined with uprisings in German occupied countries, starts, the economic issue will greatly contribute to the decision. But not before then. However, other things may happen before then.



THIS "WALLED CITY" is the pride of Leeds, England. Born of a slum clearance project, Quarry Hill Flats are now nearing completion; the outer wall with its arched entrances is over a mile and a quarter in length. Housing experts from all leading countries have inspected the project and expressed keen interest in the new design.

ALLEN, MILES & FOX
CHARTERED ACCOUNTANTS
■ ELLIOTT ALLEN, F. C. A.
LICENCED TRUSTEE
■ COMMERCE & TRANSPORTATION
BUILDING
159 BAY STREET
TORONTO, CANADA

Dividend Notices

**THE MONTREAL
COTTONS LIMITED**

NOTICE IS HEREBY GIVEN
THAT A QUARTERLY DIVIDEND
OF ONE AND THREE QUARTERS
PERCENT (1 3/4%), being at the rate
of Seven percent (7%) per annum, has
been declared upon the preferred
stock of the Company. Payment
will be mailed on the fifteenth day of
September next, to shareholders of
record at the close of business on the
31st day of August, 1940.

By Order of the Board,
CHAS. GURNHAM,
Secretary-Treasurer.
Valleyfield, August 21st 40.

The Montreal Cottons Limited

NOTICE IS HEREBY GIVEN
THAT A DIVIDEND OF ONE PER
CENT (1%), has been declared upon
the Common Stock of the Company
and cheques will be mailed on the
fifteenth day of September next, to
shareholders of record at the close of
business on the 31st day of August,
1940.

By Order of the Board,
CHAS. GURNHAM,
Secretary-Treasurer.
Valleyfield, August 21st 40.

**DOMINION
TEXTILE
CO-LTD**
Limited

Notice of Preferred Stock Dividend
A DIVIDEND of One and Three
quarters per cent has
been declared on the Preferred Stock
of DOMINION TEXTILE COMPANY, Limited, for the quarter ending
September 30th, 1940, payable 1st
October, 1940, to shareholders of record
30th September 1940.

By Order of the Board,
L. P. WEBSTER,
Secretary.
Montreal, August 21st, 1940.

**DOMINION
TEXTILE
CO-LTD**
Limited

Notice of Common Stock Dividend
A DIVIDEND of One Dollar and
Twenty-five cents (\$1.25) per
share, has been declared on the Common
Stock of DOMINION TEXTILE COMPANY, Limited, for the quarter ending
September 30th, 1940, payable 1st
October, 1940, to shareholders of record
14th September, 1940.

By Order of the Board,
L. P. WEBSTER,
Secretary.
Montreal, August 21st, 1940.

Canadian Wirebound Boxes

LIMITED

DIVIDEND NOTICE

Take notice that the Directors of the
Company have declared a dividend of
thirty-seven and one-half cents (37 1/2)
per share on account of earnings of the
last three quarters of 1940 to shareholders
of record the close of business September
6th, 1940.

By Order of the Board,
J. D. JERNY,
Secretary.

NOTICE OF DIVIDEND

Famous Players
Canadian Corporation
Limited

NOTICE IS HEREBY GIVEN THAT A
semi-annual dividend of twenty cents (\$20)
per share has been declared on the Preferred
Stock of the Company. Payment will be
made on the 15th day of September, 1940,
to shareholders of record at the close of business
on the 31st day of August, 1940.

By Order of the Board,
J. H. GILLIES,
Secretary-Treasurer.
London, Ontario
August 23, 1940.

**Silverwood
DAIRIES, LIMITED**
DIVIDEND NOTICE
PREFERRED DIVIDEND NO. 9

Notice is hereby given that the regular
semi-annual dividend of twenty cents (\$20)
per share has been declared on the Preferred
Stock of the Company. Payment will be
made on the 15th day of September, 1940,
to shareholders of record at the close of business
on the 31st day of August, 1940.

By Order of the Board,
J. H. GILLIES,
Secretary-Treasurer.
London, Ontario
August 23, 1940.

PIONEER GOLD MINES
OF B. C. LIMITED
(NON-PERSONAL LIABILITY)

Notice is hereby given that a dividend of
TEN CENTS (10c) per share (being at the
rate of 40c per annum) on the paid up
capital stock of the Company has been
declared on the 1st day of October,
1940, payable on the 1st of October,
1940, to shareholders of record at the close
of business on the 31st of August, 1940.

By Order of the Board,
ALFRED E. BULL,
Secretary-Treasurer.
Vancouver, B.C.
August 16th, 1940.

GOLD & DROSS

It is recommended that answers to inquiries in this department
be read in conjunction with the Business and Market Forecast.

MADSEN RED LAKE

Editor, Gold & Dross:

I am considering making an investment in Madsen Red Lake, but before doing so would be pleased if you would tell me whether or not the present market price fully reflects the position of the company, in so far as known ore reserves and liquid assets are concerned?

—M. E. H., Brandon, Man.

The current market quotation for Madsen Red Lake shares, of around 30 cents, appears to not only fail to reflect the position of the company from the points you mention, liquid assets and known ore reserves, but also to ignore the improvement in the company's ore possibilities as indicated by the encouraging results from diamond drilling to depth. The estimated present value of shares based on net current assets at the end of the last fiscal year, February 29th, along with the likely operating profit obtainable from known ore reserves at that date, works out at better than 43 cents a share.

All operations at the property are stated to be progressing satisfactorily and encouraging developments underground on the fifth level are reported. July was the best month since production commenced. Grade was higher and output of \$109,752 topped the previous record of \$100,752 in June.

WIREBOUND BOXES

Editor, Gold & Dross:

I would like to get your advice on some Class A stock of Canadian Wirebound Boxes which I am holding at the present time. A friend of mine has advised me to sell but I am inclined to hold the stock because as far as I can see it should keep on paying dividends and since it still isn't out to where I bought it, I think I stand to make a little profit on it. However, my friend has me worried and I decided to consult you—once again. Whom do you agree with?

—P. L. H., Toronto, Ont.

With you; for I think that the Class A stock of Canadian Wirebound Boxes is affording you an attractive yield—which it gives promise of maintaining for some time—and at present market levels has distinct possibilities of appreciation.



WHY DON'T YOU RIDE HIM, COWBOY?

In the first 3 months of the current fiscal year—which began March 1, 1940—operations were well above those of the corresponding 1939 period and compared very favorably with the final quarter of last year. While the company has received some war orders, I understand that the bulk of the improvement is a reflection of better Canadian business generally. And with the wood and paper divisions working at near capacity, and a substantial volume of orders on hand, the outlook is encouraging. Of course it is still early to make any predictions about full-year earnings, but from the start the company has this year, it would appear that they should show their heels to 1939's \$2.35 per share.

Canadian Wirebound Boxes, Limited, manufactures wirebound boxes and crates, plywood cases, nailed boxes, bottled boxes, corrugated cartons, paper rolls and sliding drawer paper files. It controls exclusively several important patents for the whole of Canada. The financial position is satisfactory. Arrears on the Class A stock amount to \$2.25 per share.

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Britain is overlooking nothing in her search for raw war material. Left, miscellaneous scrap collected from householders in Kensington. Right, 90-year-old ledgers collected at a waste paper firm in London. All will be converted into arms.

GOLD & DROSS

(Continued from Page 8)

The mill which is now handling between 750 and 775 tons a day is being increased to 1,000 tons a day and may probably be gradually worked up as high as 1,100 tons, and the management hopes to have the increase effective by the year end. The present milling rate has been giving a production of around \$185,000 to \$195,000 a month, and at 1,000 tons daily, output should be close to \$250,000, while 1,100 tons daily should mean about \$265,000 a month. The shaft at Sigma was recently completed to a depth of 2,115 feet and eight more levels provided for development. So far little more than cutting of the station has been completed on any except the bottom horizon, which work indicated that the ore zone continued normal at depth, both as to grade and size.

INDIAN MINES

Editor, Gold & Dross:

I would like to ascertain if there has been any recent change in the outlook for Indian Mines Corp. What is the company's financial position?

—M. W. G., Kamloops, B.C.

No, I know of no recent change in the outlook for Indian Mines Corporation and it appears that better prices for base metals will be necessary before the directors are able to interest new capital. I understand the directors are still trying to negotiate a deal for the re-opening of the property which is located in the Salmon River area, Portland Canal district, but without success.

The balance sheet as at December 31, 1939, showed cash \$13.67 and bills payable consisting of loans and accrued interest of \$17,613, and expenses of maintaining head office of \$700. In order to attract new financing it may be necessary to have a reorganization of the share capital, but directors state this matter will be considered when the need arises.



K. W. DALGLISH, C.A., Montreal, president of the Dominion Association of Chartered Accountants, who will preside at the thirty-eighth annual meeting of the Association at the Mount Royal Hotel, Montreal, 3rd to 5th September.

HARGAL

Editor, Gold & Dross:

I have been hearing a lot about a merger between Hargal Oils, Ltd., and Freehold Oil Corporation. I am holding some Hargal stock myself. What do you think of this merger? What do you think of Hargal stock?

—L. D. S., Calgary, Alta.

I think it is highly speculative. You must realize that this does not apply to the stock of Hargal Oils, Limited, alone, but to the stock of any natural, wasting industry such as oil or mining and particularly so when the enterprise is in the development stage.

For the assets of Freehold Oil Corporation, Hargal would pay \$801,305 shares of capital stock. The assets of the former would include all its leases, 160 acres on the west flank of Turner Valley—some \$3,000 in cash, 25,000 shares of Coast Drilling Company and miscellaneous other assets. If approved, the sale would give Freehold a holding 1,200,000 shares of

Hargal. It would also leave enough funds in the treasury to pay for the winding up of the company should the shareholders decide to do so. Hargal directors value Freehold assets at \$80,131 and shares in their own company at 10 cents per share; this forms the basis of the transaction.

Reasons for the merger are that Hargal would have a larger diversification of Turner Valley leaseholds which would result in operating economy and reduced overhead. Also, the companies are largely interlocked, have the same objectives, and both hold leases in Turner Valley. So the merger should benefit both.

CHEMINIS

Editor, Gold & Dross:

Any information you can give me as to the outlook for Cheminis Gold Mines, in which I have some shares, will be gratefully received. I was under the impression that Consolidated Smelters was meeting with interesting results and I now hear work has been stopped.

—B. P. S., Huntsville, Ont.

Consolidated Mining and Smelting Co., of Canada, which has been financing and directing operations at Cheminis Gold Mines, in the Larder

Lake area, has, I understand, suspended work pending a decision regarding further development. Work to date has indicated an estimated 321,607 tons of ore valued at close to \$2,000,000. The grade of the ore is \$6 per ton at \$38 gold, and a profit of around \$2 per ton is calculated provided a fair-sized mill is erected.

The ore is contained in three zones which have been explored by drifting and diamond drilling. The "C" zone appears the most important and tonnage in it is estimated at 229,070 tons grading \$6.08 uncut, but after allowing for dilution of 10 per cent. Diamond drilling below the 525-foot level is reported to have given some interesting results and if additional underground work is planned, deepening of the shaft will probably be done first.

A total of \$201,343 has already been expended by Consolidated Smelters on underground development. Of this amount half is in the form of a loan, to be repaid out of profits, while the balance was provided for 1,132,408 shares taken down under an option agreement at prices ranging from five to 17½ cents per share. At present Cheminis has 2,782,399 shares issued out of its authorized capital of 3,000,000 shares.

Western Oil and Oil Men

BY T. E. KEYES

THE McColl Frontenac Oil Company announced last week that it will commence drilling operations about September 20 on its 10,000-acre block of land on the Moose Dome Structure. The announcement is considered both in oil and government circles as one of major importance to Alberta and the Dominion, which is now encouraging development of new oil fields as a part of the national war effort.

Desirous of co-operating with the government, in the matter of increasing crude oil supplies within the Dominion, President J. A. Wales visited Alberta to survey the situation. On his return to Montreal he set up an exploration department under the direction of Edward H. Hunt, who had spent several years geologizing possible oil areas in the prairies.

The Moose Dome Structure is regarded as a semi-proven one, as two wells drilled on it encountered, in one case, gas heavily laden with naphtha, and in the other a high gravity crude. However, neither well has as yet been classed as a commercial producer by government officials. The province holds a 10 per cent. royalty on all acreage in the Moose Dome area. A new oil field at Moose Dome would also mean a great deal to the city of Calgary as it is located 45 miles due west of the city.

The location for this key test well will be about three miles from the Moose Oil No. 1 well, which is presently capable of producing considerable naphtha.

The Moose Dome Structure was first discovered by the Dominion Geological Survey in 1905, and in 1928 Wm. Pilling, of Calgary, interested the Timmins mining interests of Montreal. They financed the drilling of the first well and built a road to the structure, etc. Their total expenditure was around \$200,000.

The McColl Frontenac Company came into the picture last winter, when it secured options on a large block of acreage in this area. The company immediately put a geological party of six experienced geologists to work geologizing the structure. After four months of intensive geological work the present well site is due for further development.

The Bottleville No. 2 well, drilled on this structure by Franco Oils Ltd.,

was put on production on May 13 last, and Dr. Hume says it is still producing steadily. The producing sand was contacted at the shallow depth of 1,853 feet. Three other wells have been drilled on this structure by the Franco Co., two of these are large gas producers and the other, known as Bottleville No. 3, encountered crude. I am told that there are in all, 6 crude oil sands at the Bottleville No. 3 well. There are also water sands in between these oil sands, and I am advised that the following drilling technique has been decided upon for this area: The wells will be drilled through to the lower producing sand, then the casing run to the bottom of the hole, and then cement, under heavy pressure (commonly called a squeeze cement job) will be forced up around the casing, cementing off both the water and oil horizons. The casing will then be perforated opposite the producing oil sands, while the water sands will remain cemented off. By following this procedure one well will drain all 6 sands.

In the Signal Hill and other California fields there are also several oil sands, but the operators there have drilled a well into each sand. This in part explains why the wells in some of those fields are so close together, resembling a forest. Some of the oil sands in the California fields are around 200 feet thick, whereas at Bottleville No. 3, the thickest sand is around 30 feet. However, in some commercial U.S. oil fields, the sands vary from a few inches to a few feet. Dr. Hume says the Cord-Zandmar interests of Los Angeles are preparing to drill 2 offset wells to the Bottleville No. 2 well. He states that a derrick is now being erected, and that a new Emsco Portable rotary rig, with casing, and all necessary production equipment, including pumps, gravel packs, etc., are all at the location.

It is expected that, with this latest type equipment, a well can be drilled to 1,850 feet in about a week. Hence it is quite possible that by the time this issue of SATURDAY NIGHT reaches you, this well will be completed.

The Cord-Zandmar interests are committed to drill 10 wells in this area. The Franco interests have also



AUSTIN H. CARR, C.A., Toronto, editor of "The Canadian Chartered Accountant" and secretary-treasurer of the Dominion Association of Chartered Accountants, which holds its thirty-eighth annual meeting at Montreal September 3-5.

let a contract for 10 wells to the Alberta Drilling Co., which is shipping in a new portable rotary rig.

Dr. Hume is now preparing a report on the Vermilion area, which he says will be based in part on information secured from the recently completed wells, and will bring his previous reports made in 1925 and 1935 up to date. As stated a few weeks ago, the discovery of this new field is directly attributable to Dr. Hume and the Geological Survey.

Dr. Hume says the area looks very favorable for future development, but warns that the field will be controlled

by local structures, and that wells not closely related to local structures are likely to have little success. This warning is one which investors should heed, especially if the field continues its rapid development program and present success, as there is always the possibility that unscrupulous promoters will obtain acreage located near the structure, but from the standpoint of obtaining oil it might nearly as well be located a thousand miles away.

I should stress here that the locations of the present successful wells were all made on the basis of the results of a seismic survey. Possibly I should also mention that although the structure had already been surveyed by a seismograph crew, the Franco-Thorn interests, before making the locations for the proposed 10 wells, had another seismograph party recheck their well locations.

However, the fact that the best geological and geophysical information has been obtained is no guarantee to investors that oil will be found. In areas where the fairway of the field is defined, one is almost certain of obtaining production and in most U.S. sand producing fields, banks will advance the money for drilling wells so located.

Production from the Turner Valley field for the month of July showed an increase of nearly 200,000 barrels over June, with the limestone wells producing 824,091 barrels in July. This field will soon have 2 new producers, namely the Southwest Petroleum No. 4, and Pacific Petroleum No. 5 well. This production is badly needed as the refinery demand is about 5,000 barrels a day above the field's production.

Some of the small refiners in Saskatchewan are pretty sore about this crude shortage, and they are trying to find the culprit responsible for this situation. As I see it, the culprit is the extra large crop and our war effort, both of which have increased petroleum requirements, away above normal, on the prairies. However, some people seem to think a big oil company is the culprit, and that Oil Controller Cottrell, if not actually an accessory, is not in any case a deterrent to the culprit. It is pointed out that the controller's office is right in Toronto, and that he is in close touch with the big oil executives, and has even taken some of his technical advisers from their staff.

Well, in my opinion, if he wanted competent and experienced advisers, the only place he could get them, with possibly a few exceptions, would be from the major oil companies.

As for consulting the executives of the major oil companies, his job demands that he consult them. However, one thing that I think he should do is assure the investing public that he will take the production of all crude produced, and set a price for the different grades. For instance, recently I have had letters from investors wanting to know what price the controller would pay for oil produced in certain fields.

As this is written, I received one from Vancouver, which says in part, "I am thinking of investing in Buckley Oils. This company has no connection with the big companies, and it is possible that they would not buy our oil, should we bring in a big field. Can the oil controller force the refining companies to take this oil and will he do it, etc.?" I have read the order-in-council setting out the powers of the controller and he can do anything he pleases about oil in Canada.

While the controller has made general statements as to taking all oil produced, I think it would give investors much more confidence if he would set a price, say for oil from the Red Coulee, Del Bonita, Wainwright, Bottleville, and Ribstone fields. I admit that as yet the production from these areas is scarcely worth speaking



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about, but as stated above there are large drilling programs being started in one field, and investors have a right to know what the controller proposes to do with this oil. In my opinion it is his duty to tell them now, so they will know where they stand.

German Economy

(Continued from Page 7)

order to prove the unworkability of the reparations policy, depressed German economic conditions more than necessary.

Be this as it may: the outcome was Hitler, and it was so because a starving people never develops a revolutionary spirit, and grasps any straw. This success of theirs the Nazis are trying to repeat in the conquered countries, and therefore their policy of starvation. They hope to crush the spirit of these nations so that in the end they submit to Nazi tyranny as meekly as the Germans themselves did. They overlook, or, anyway, they have to overlook in order to make the best of it, that there is not only the question of government involved here, but also the question of foreign domination. A discouraged nation may submit, for some time at least, to any form of government if it has no democratic tradition. But it is one of the fatal mistakes of the Nazis that they try to apply this to subjugated nations.

A One-Way Traffic

There is, secondly, the question of transportation. The West and Northwest of Europe is under the German heel. They can take anything they like from these countries, and pay for it with worthless money or bonds. But in the South-East they have to pay with exports. If they can manage to maintain rail connection between, say, Holland and Rumania, they will certainly make it a one-way traffic, in that they ship Dutch iron for which they pay with scrap paper, to Rumania, and get oil in exchange. But they will certainly not ship things into Holland.

To sum up these observations with regard to Germany's present raw materials position: it is, considering the circumstances, as sound as could be expected. But it must relatively deteriorate with every day that passes. If the blockade can be maintained on its present level of efficiency until the time when the British counter-offensive, combined with uprisings in German occupied countries, starts, the economic issue will greatly contribute to the decision. But not before then. However, other things may happen before then.



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CONCERNING INSURANCE

Dangers of Heated Gases in Building Fires

BY GEORGE GILBERT

FIRE insurance engineers who have made a study of the behavior of heated gases point out that smoke in a building on fire may reach temperatures of well over 1,000 degrees. Although mixtures of carbon monoxide and air will not ignite at less than 1,100 degrees, that does not mean that the entire mixture must be brought up to that temperature, because any flame or electric spark which exceeds this temperature may start the mixture burning.

Thus in considering the effect of smoke in connection with fires in buildings, it is well to remember the fact that temperatures of 1,100 will ignite mixtures of smoke and air where there is a high content of carbon monoxide, and that smouldering fires, particularly in buildings which are closed up, will always have a high carbon monoxide content. Knowledge of this fact may be the means of preventing "back fires," which, it is pointed out, are only smoke and air mixtures burning with such rapidity as to produce the equivalent of an explosion.

It is also to be noted that smoke does not long hold its heat. When a building is on fire, the walls, floors and contents receive the heat which is quickly given off by the smoke. If a fire burns for a considerable time before it is discovered, this transfer of the heat from the smoke will eventually heat the contents and the combustible parts of the structure, such as paint, wood, paper and cloth, to above the ignition temperature. This is the explanation of why the entire contents of a building may burst into flames upon the breaking of a window or the removal of a skylight, or the opening of a door; such openings allow an inrush of air, thus furnishing the needed oxygen to allow these materials to burn.

Conflagration Hazard

This danger of rapid ignition and quick spread of the fire is one of the principal factors in producing a conflagration, it is pointed out in a recent bulletin of the National Board of Fire Underwriters, as the amount of heat thus produced may be too great for the fire department to combat, with the result of a spread of the fire to a nearby exposed building. In order to prevent such an occurrence, it is necessary that a sufficient number of hose lines be made ready before a building is opened up, if the fire is one which has been burning for a considerable time.

In the case of night fires and all fires which give evidence that the building is well charged with smoke, it is advisable for the officer in charge of the firemen to investigate before opening up the building for fire fighting. If the window panes are hot, or the smoke which issues from the building rises rapidly, it is clear that the only

thing necessary to turn the interior of the building into an inferno is to provide more air.

Extreme care is therefore necessary when this condition exists, and ample hose lines must be available before opening up the building. It is pointed out that the opening of a door or window on the floor on which the fire is burning, or on a lower floor, will probably result in a back draft explosion, as such an opening permits sufficient oxygen to be added, in the hottest part of the fire, to produce burning at a rate corresponding to an explosion.

It is admitted that there can be no fixed rule for the handling of every situation of this kind, because each fire is different, depending upon the material burning, location of the fire, length of time it has been burning, and the kind of structure involved. The last factor is regarded as of vital importance, as without knowledge of the type of building, the materials stored, and the number, location and kind of vertical openings between the floors, it is practically impossible to do effective work.

Openings of the building to fight the fire are best made above where the fire is burning, if the construction provides a direct path up a stairway or shaft to a point where the opening will be made. In tall buildings, or where it is evident that much smoke has not reached the upper floors, the opening of windows on floors just above the fire is the better procedure, especially if windows on both the windward side and the lee side can be opened. In small buildings, such as ordinary dwellings, particularly those of frame construction, the danger of a back draft is seldom a material factor. Smoke is seldom a factor in dwelling fires, as it is pointed out that in less than 3 per cent of such fires is there enough smoke to prevent firemen from making their way direct to the seat of the fire.

In order to fight fires intelligently, a knowledge of the elements with which he must contend is necessary for the fire fighter. One of these is smoke. Air is composed of oxygen and nitrogen. Most burning material contains carbon in one form or another. There may be many other ingredients, it is noted, such as hydrogen, which is found in large quantities in oils and fats, and sulphur, phosphorus, and various compounds of many minerals in the goods stored and used in this chemical age.

Under the influence of heat, many chemical elements combine and others are liberated, and the resulting product, it is pointed out, is smoke or gas of a varying mixture. Oxygen and hydrogen form water vapor. While liberated nitrogen is inert and harmless, some compounds of nitrogen may be very irritating or injurious to fire fighters. In the burning of many materials there is also given off free carbon, in the form of soot, or as minute particles which produce the blackness of smoke. These, it is noted, except for an irritation to the eyes, seldom interfere with fire fighting.

Carbon Monoxide

It is the incomplete stage of combustion which results in the formation of the dangerous carbon monoxide. It has about the same heaviness as air, and it diffuses or mixes with air and is carried along with it. It will burn, when air is present, and, under the proper combination of heat and air, this burning may be of explosive violence. It is toxic, as certain concentrations are poisonous to breathe for any length of time.

A knowledge of the characteristics of carbon monoxide is of great value in fire fighting. When any gas is heated it becomes more buoyant and tends to rise. Accordingly, it is evident that carbon monoxide will be more concentrated near the ceiling than at the floor, a fact well-known to experienced fire fighters, who crouch or lie flat in a smoke-filled room.

It is not uncommon for fire fighters to find smoke conditions untenable on the first floor after holes have been cut in the flooring, while others are able to stay in the cellar or basement where the actual fire exists. The carbon dioxide is heavier than air, however, and as it cools it will settle and carry with it noxious gases and vapors, such as chlorine, the nitrogen compounds and carbon monoxide. If there is a little wind, smoke will settle in the street in sufficient quantity to be a hindrance to fire fighters working on the outside of a building.

While the toxic effect of carbon



H. J. ORPEN, who has been appointed superintendent of the accident and sickness department of the Economical Mutual Fire Insurance Company. He was previously with the North British and Mercantile Insurance Company Limited for eighteen years, seven as fire and casualty field man and the remainder in the casualty branch at the Toronto office.

of \$9,000 I would leave on deposit with the insurance companies for the interest to accumulate.

After five years I would live on the \$100 month from the Deferred Annuity and the interest, which I would then take yearly, from the \$9,000 insurance which by this time would have accumulated compound interest. These two should by that time net me nearly \$1,600 a year. For the past three years and for the next five years my living has and will come from the drug store.

I hope I have made myself clear. Should I still leave my money on deposit with the insurance companies or should I buy an Annuity and know that my old age is taken care of? And the war, how will it affect government annuities? Supposing the worst should happen, what then?

I forgot to say there is an insurance policy which takes care of my daughter's college education.

—P. C. M., Windsor, Ont.

If the provision of the largest possible income for yourself for the rest of life after age fifty,—that is, the largest possible income consistent with the highest degree of security obtainable,—is more important than the leaving of the largest possible estate at death, you could not do better, in my opinion, than purchase the Deferred Annuity you refer to and on the plan mentioned—the twenty-year guaranteed plan.

Under that plan, the income would be paid to you as long as you lived, however far into the future your life might extend, and would be paid for twenty years in any event, so that should you not survive the twenty years the remainder of the payments would go to your heirs. Should you die before the commencement of the payments under the annuity, what you had paid in, together with four per cent compound interest, would be returned to your heirs.

As the security behind the annuity is the security of the Dominion of Canada, there is no reason for any misgiving as to future payment in full of all amounts guaranteed by the contract. As the last war did not have any effect upon government annuities, there is no ground for concluding that this one will be different in that respect. In fact, should a time arrive when Dominion Government obligations are not secure, where else will you be able to find security?

Editor, Concerning Insurance:

As a subscriber to your paper for a number of years I would appreciate very much if you could give me some information in regards to the Insurance Company of America, whose head office for Canada is in Toronto.

This is a new company to me and I would like to know what their financial status is and their record of claim payments.

The particular policy in which I am interested is described as a "Personal Property Floater," apparently something comparatively new and I would like your opinion of this type of policy as to its benefits or otherwise in comparison with the ordinary type of insurance policy.

Any information that you can give me will be greatly appreciated.

—M. C. W., Edmonton, Alta.

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At the end of 1939 its total assets were \$111,211,152, while its total liabilities except capital amounted to \$33,852,011, showing a surplus as regards policyholders of \$77,269,141. As the paid up capital amounted to \$12,000,000, there was thus a net surplus of \$65,269,141 over capital, unearned premium and all liabilities. Its total income in 1939 was \$29,306,914, and its total disbursements, \$26,578,300, showing an excess of income over disbursements of \$2,728,614.

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Ultimate War Goal Is Free Enterprise

BY ALBERT C. WAKEMAN

As we struggle against the aggressor, let us not overlook the peril of oppression from within. For if it is worth while to fight a foreign country for the sake of freedom, then it is equally important to guard against its insidious suppression from within.

Accordingly what are tolerated as war measures must not be allowed to over-run the time of need. Among the "natural" economic rights must be listed freedom in ownership of property, the choice of occupation, and a money of intrinsic value. These rights have been impaired before and during the war. They must be restored if the ultimate goal is to be achieved.

WHAT are we fighting for? is a question that has been asked a thousand times, but never positively and satisfactorily answered. Perhaps it was this failure to find a great and inspiring principle that defeated the Frenchman, who has always been prone to philosophize on the objects of his own existence. But it does not handicap the practically minded Britisher, who in his historical development has blundered along from goal to goal, without any attempt to achieve, or even to define, a perfect kind of existence. And when he finds himself with his back to the wall, which admittedly is the case at present, he needs no war cry other than that of his own self-preservation.

But in our concentration on this problem of the hour, we should not entirely lose sight of the principles of human life that are at stake, not only in the war, but also in the trends of the times in which we live. There is a well-founded fear lest in resisting external oppression we embrace the very same evil in another form.

The germs of discipline and domination which have run amok in Germany and Italy are ever present in our own system; they are powerfully stimulated by the atmosphere of war; and being already satiated in respect of territories and raw materials, they tend to concentrate upon the oppression of elements within our own jurisdiction. Whether in foreign or in domestic affairs, it is a mailed fist none the less.

Fighting Two Wars

In reality, therefore, it is two wars that we are fighting. The one is external, obvious and urgent, demanding the temporary sacrifice of all personal rights and privileges. The other is internal, less evident and less urgent—in fact its very objectives are surrendered, in these temporary expedients of war. But in the long run this is the war that counts, because it is the war against oppression in any form. If we lose freedom of person and of enterprise, then we lose everything which has been achieved in the whole of democratic development, particularly in the British Empire and America.

A closer definition of this goal may be reached by elimination. There are a number of doctrines, both old and new, which we should easily recognize as unworthy and unsound ideals. One of these is the older brand of imperialism, which sought conquest for the sake of lands to govern, exploit and ultimately populate. The explorations of the 15th and 16th centuries were followed by expansion of this kind in which the then great nations all took part. The empires of today admittedly include some territories which were acquired on this basis. But it is significant that those in which the doctrine of force was stressed quickly disappeared.

The surviving empires in the main exemplify the principles of liberalism and self-government. Britain a century ago abandoned the thought of rule by suppression, and has been rewarded by the conversion of her principal colonies into a family of self-governing and loyal nations. Strange enough, it is the totalitarian powers which, while ranting about the evils of imperialism, themselves are today seeking to control other nations through a policy of aggression.

Nor is our objective a capitalist autocracy. That had its brief day, and has been abandoned. It followed the extreme laissez-faire theory of a century ago, which allowed the rapidly growing accumulations of capital to exercise undue power over

Positive Factors

But there are some positive factors that must be retained, if economic life is to be fruitful to the individual. Communism is the only plan for equality in distribution, but it is the equality of extinction. There are considerations more fundamental than any other plan, and our future depends upon the preservation of certain rights which have been won through generations of struggle. The French, in their political philosophizing of the 18th century, before and after the revolution, affirmed certain "natural" rights of man under any kind of government.



ONE OF CANADA'S WARSHIPS. Here is a Canadian destroyer entering a port in England after a tour of duty with ships of the Royal Navy.

economic life. This power has been whittled down through labor unions, legislation, education, and living standards, while there is now a much wider view of the responsibilities and duties of capital itself.

Indeed, business organizations have now grown so large, and the ownership of the capital is so diffused, that the directing power in industry has passed to a semi-professional interest known as management, which acts as a trustee for labor, the state, and the consumers, as well as for the investors, and which by the force of organization and public opinion is obliged to operate within definite limits.

Illusive "ism"

Communism should be mentioned with apology, because it is the most illusive and deceptive of all the modern "isms". In its purity, communism avers that all should share equally without regard for what they respectively produce. Any attempt to implement this plan completely destroys the enterprise of the capable and energetic, thereby reducing the output of the average worker to that of the lowest in the scale, and quickly starving everyone.

Russia abandoned its initial efforts in the communistic line. Yet communism, as promoted by the Bolshevik party in Russia, was the dominating threat of the post-war period, and it remains so near to the ideals of the average unthinking citizen, that it can never be ignored in any discussion of public policy. Taxation and controls have run so strongly counter to self-interest that individual incentive has been largely eliminated. We probably do not want communism as a principle of economic life, but in practice we run dangerously near to it.

It would be equally absurd for us to espouse the cause of national socialism. This is the political principle on which the governments of Germany and Italy are founded, and they are our bitter enemies in the war. National socialism declares the interests of the state to be supreme, and the individual to be but a tool for the attainment of these ends. True enough, the state is viewed as the aggregate of its citizens, but it is a purged and disciplined party, ruled from the top, that determines the ambitions of the state. The rights of the individual as such completely disappear.

What is left to us, through this process of elimination, is some brand of democratic socialism, "democratic" signifying that ultimate control is in the hands of the people, and "socialism" implying that the welfare of the masses is a dominating consideration in public policy. For at least half a century, the governments of all democracies have been headed in this direction. If Britain survives the war, it is practically certain that they will continue on the same general line.

The Economic Sphere

In the narrower economic sphere there are few positive declarations, because the earlier central governments did not aspire to the remoulding of our bread and butter existence as do those of recent times. It is another strange twist in our development, that some of the achievements of older struggles are now virtually discarded, while things formerly beneath the notice of kings and princes have become the focal points. The next great conflict may easily be to determine where the state must leave off and the individual begin, or vice versa, in the matter of the production and distribution of goods. It is the imminence of this struggle that makes this dual war, against oppression from within as well as from without, so vital.

When we come to define our economic rights, accordingly, we will have to draw what we can from our political history, and fill in the gaps with new material based on economic life itself. A war atmosphere is not the best in which to frame new doctrine, but as the war against internal oppression is in the making at the same time that the war against external oppression is being fought, we are obliged to make a start.

And it is very significant that, just as our system includes the germs of communism, imperialism and every other kind of undesirable doctrine, so also does it include violations of the most simple and obvious economic rights.

Among these rights must be listed that of choosing one's occupation. Personal freedom means little if it merely protects us against unwarranted imprisonment. We must be allowed to choose whether we will be a farmer, or a merchant, or a factory worker. If in war time we adopt conscription for the army and possibly for industry as well, it must be tolerated only as a temporary and war measure, and not allowed to over-run the time of need. With this right of the adult must go the right of the child to the kind of training chosen by himself or by his parents, for anything else would constitute a system of economic castes.

Right of Ownership

Equally basic is the right to own property, for without individual wealth there can be no real economic security, nor any genuine choice in the application of labor. There is much agitation today for state socialism, under which the government would own and operate all branches of production. This would reduce private wealth to things in the process of consumption, including furniture, motor cars, etc., and to such bonds or savings instruments as might be provided by the government; and it would make every worker an employee of the state.

This sounds well enough in theory, but it is already evident that public projects tend to become rigid in their methods; without the purging influence of private industry, a complete state system would inevitably drift into a rut, and very likely strangle itself with red tape and patronage.

A further economic right of the individual, which is now more honored in the breach than in the observance, is that of having a circulating medium of sufficient intrinsic value to be proof against mis-management. After a long process of trial and error, man chose gold as his money, only to have

for the seven months ended July 31 was \$2,127,285 compared with \$1,311,502 in the first seven months of 1939. East Malartic now ranks high among the leading mines of the province of Quebec.

The working capital of the leading mines of Canada was at a high level at the end of 1939. The base metal mines had an excess of \$112,000,000 in current assets above current liabilities. The gold mining companies had an excess of \$79,500,000 while holding companies had over \$50,000,000, thereby making a total of more than \$240,000,000 in net working capital for the industry.

Beattie Gold Mines in recent months has had an increase of close to \$1 per ton in grade of ore compared with earlier months of this year. As a result, operating profits have risen to \$100,000 a month. Operating costs so far this year have been \$2.23 per ton despite having a comparatively difficult ore to deal with. The operating profit in recent months has been 20 per cent. higher than that prevailing in the earlier months of this year.

MacLeod-Cockshutt Gold Mines continues to add to the volume of ore disclosed in its new ore shoot. Diamond drilling from a long drive which parallels the deposit at a depth of 500 ft. has so far indicated a length of some 750 ft. Additional drilling has also commenced with the first two holes pointed to lower horizons. These deeper holes show no interruption in width and values. Early estimates have indicated 2,100 tons of ore in each foot in depth in this new deposit, and with a gold content of \$9.16 per ton, or an indicated \$1,900,000 in each 100 ft. in depth. Two crosscuts are being put through the orebody at the 500 ft. level.

Malartic Goldfields produced \$107,270 in July, recovering \$8.43 per ton, compared with an output of \$122,102 during June when recovery was \$9.60 per ton.

Madsen Red Lake produced \$129,965 in gold during July, this output including \$20,213 in a mill cleanup. Production during August has been running at about \$27,000 per week.

Buffalo Ankerite has centralized operations and carried out plans for large scale mining facilities at a cost of some \$1,500,000. This includes completion of a new central shaft to 2,300 ft. in depth. Benefits from the large expenditure will be felt within 30 days when new units begin to function.

This is only a sketchy consideration of economic fallacies which we seek to avoid and of economic rights which we seek to preserve. But they are part and parcel of the present dual war. Their definition and determination must proceed as time goes on and as, let us hope, the peril of external oppression is gradually extinguished.

Mines

BY J. A. MCRAE

GOLD production from mines in Canada reached \$17,374,164 during June, or a rate of some \$208,000,000 annually. This made a total of \$99,023,617 for the first half of this year, for an increase of more than 3 per cent, over the first half of 1939. Preliminary estimates suggest the output for the whole of 1940 will reach 5,300,000 ounces with a value of some \$204,000,000.

Macassa Mines produced \$219,838 in gold during July, making \$1,519,522 during the first seven months of 1940 as compared with \$1,339,186 in the corresponding period of 1939.

Preston East Dome produced \$187,790 in gold during July, making a total of \$1,289,495 during the seven months ended July 31. Recovery averaged \$13.26 per ton. The company will pay a dividend of 5 cents per share on Oct. 15th.

Lake Shore Mines, now producing over \$1,000,000 in gold every thirty days, will pay a dividend of 50 cents per share on Sept. 14. The company has made three such disbursements so far this year and with some indications that the dividend for the final quarter of this year may be accompanied by a bonus.

Paymaster Consolidated Mines produced \$1,665,847 in gold during the fiscal year ended June 30, for an increase of 16 per cent over the preceding year. Operating profit for the fiscal year was \$463,415 compared with \$119,128 in the preceding year. Net profit after all charges was \$138,360 compared with \$98,836 in the previous year. Ore reserves are estimated at 708,943 tons containing 228 ounces of gold to the ton. Total current assets are \$785,800 against total current liabilities of \$141,668.

This sounds well enough in theory, but it is already evident that public projects tend to become rigid in their methods; without the purging influence of private industry, a complete state system would inevitably drift into a rut, and very likely strangle itself with red tape and patronage.

Frontier Red Lake, a gold prospect in an advanced stage of exploration in the Red Lake district, is considering the question of installation of a mill. Part of the mill from the former Granada Mine in Quebec is being considered.

East Malartic Mines produced \$315,532 in gold during July, the mill handling 44,666 tons of ore for average recovery of \$7.06 per ton. Output



A MAN YOU SHOULD KNOW

Who is he? Your local agent for the Mill Owners Mutual Fire Insurance Company of Iowa. A member of your community, he is, in a sense, a public servant, for his life work is dedicated to bringing you and other careful property owners sound protection against financial loss from fire and other hazards to your property.

His training and experience as an insurance counsellor enable him to analyze your insurance needs, and to see that you are adequately protected not only against the direct losses of fire and other hazards, but also the indirect losses.

In case of damage to your property, he is ready and willing to relieve you of details and worry, and to assist in effecting prompt settlement.

Most important, he offers you the loss prevention service of a Mill Owners Mutual fire prevention engineer, to eliminate or minimize the hazards of fire.

In short, he offers you complete and experienced insurance service. See him soon.

MILL OWNERS MUTUAL FIRE INSURANCE COMPANY OF IOWA

CANADIAN HEAD OFFICE

HAMILTON — ONTARIO

Dividends to Policyholders Since 1875

Before You Insure Consult
Confederation Life Association
One of the World's Great Life Insurance Institutions. Renowned for Strength, Service and Security Since 1871.

THE Casualty Company of Canada
HEAD OFFICE - TORONTO
AGENCY OPPORTUNITIES
IN SOME TERRITORIES THROUGHOUT CANADA
GEORGE H. GOODERHAM, President
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Our MUTUAL Plan Reduces FIRE INSURANCE Costs

LAST year this company's policyholders received \$1,531,487 in savings under the Northwestern Mutual plan. Careful selection and inspection of risks, co-operation in fire prevention and efficient management combine to reduce overhead costs to a minimum. You, too, should be participating in these benefits.

HOW THE NORTHWESTERN MUTUAL PLAN OPERATES
PREMIUM
NET COST SAVINGS
 (Above charts are approximate. Consult your nearest agent or branch office for rates and current savings)

APPLICATIONS FOR AGENCIES INVITED

NORTHWESTERN MUTUAL FIRE ASSOCIATION

Assets: \$8,970,000



Canadian Head Office
Vancouver



PRIZES FOR SCRAP COLLECTORS. The mayor of Southgate, England, awards medals made from scrap to children who make house-to-house calls and collect bits of anything that may prove useful. Tons of useful materials have been accumulated in this way.

Natural Gas Uses Expand Rapidly

IN BOTH the east and west Canada's natural gas industry is in a healthy state and producers are optimistic, as indicated by the great increase in acreage under lease for drilling.

The uses of natural gas are expanding steadily every year.

War has brought much more production into use than would ordinarily be the case. With the possibilities of using natural gas to operate engines at pumping stations for irrigating dry portions of the west, it is likely that greater gas load will continue to be built up as the war goes on. Food (not wheat) production will make it necessary to put back into use lands which have been on the downgrade since the last war due to dry conditions.

Canada's output of natural gas averaged 11.2 per cent. above the 1939 total. The comparative effect of war is quickly seen in the monthly annuals of the Dominion reports:

	M. Cubic feet	1940	1939	1938
November		3,482,027		
December		4,015,132		
Totals 12 mos.		38,100,167	33,444,791	
January	4,285,120	4,118,179	4,065,837	
February	4,250,230	4,114,943	4,047,765	

Through the important natural gas fields of Ontario, which has no coal deposits in the southern central part of the province, drilling continued with the Kingsville and Tilbury fields down slightly in 1939 while Decline is up almost 400,000 Mcf.

Colonel R. B. Harkness, Commissioner of Natural Gas for Ontario, reports that Lambton, in Dawn township, had a 1939 production of 2,129,825 Mcf, while the Dawn field itself was up 250,000 Mcf. In this first 1940 report to appear in 1940, the Brownsfield field in general is up to 1,109,640 Mcf, from 556,922 Mcf, in 1938.

Production around Oxford, Derryham township, with 78 wells, was 842,511 Mcf.

In Brant, 108,640 Mcf.

In Norfolk, Woodhouse township, from 71 wells, 362,780 Mcf.

In Haldimand, Wentworth and Lincoln counties, 2,109,935 Mcf. Haldimand is up 200,000 Mcf.

In Welland county, Bertie township, 133 wells with production of 279,696 Mcf.

Exploratory Work

Much exploratory work was done which in 1939 rapidly developed a new and good natural gas field in Malahide Township, Elgin County, for the Union Gas Co. The company drilled 40 wells in the field, the majority of which are producers. Gas is secured from the Guelph-Niagara horizon between 1,000 and 1,150 feet. First delivery of the gas was made from this field early this April when the Central Pipeline Co. completed laying 1½ miles of 3" line to connect the producer on Michael McKnight's farm with its main transmission system. Union Gas Co. began work this spring on thirty miles of pipeline and a purification plant for delivery of the Malahide gas to London.

Gas consumers in London, served by Union Gas Co., have grown from 12,750 in 1935 to 17,564 in 1939. About 7,000 of the furnaces in 12,500 furnace homes around London are now heated with natural gas. Union Gas Co. owns about 470 producing wells and also manufactures gas at Hamilton for the Hamilton area.

Brownsfield and Glenrose were supplied with distributing systems for the two municipalities for the first time. Service was improved in Port Colborne and St. Catharines area. In St. Thomas a considerable amount of new intermediate pressure line was laid.

Messrs. Wilson & Sullivan of Sarnia have opened negotiations with the towns of Watford and Strathroy for the granting of natural gas franchises.

Natural gas is one of the largest potential resources based in our Prairie Provinces. So huge have been the deposits discovered that the production of but 20,514,341 barrels of oil in Alberta alone, from 1914 to 1938, caused a wastage at one time of as much as 200,000,000 cubic feet a day. In 1938 a Petroleum and Natural Gas Conservation Board was appointed and as a result conservation measures were adopted.

Gas in the West

The future of the West's natural gas industry is brighter than most think. This war has focussed the eyes of the Empire on Canada. It is an incongruous fact that this largest nation in the western Hemisphere can support in its great Prairie spaces not more than an additional 200,000 to 250,000 people on the 18 million acres of arable land which we have left there. If more come here and millions from Britain would like to additional people settling in rural occupations will lower the standard of living everywhere throughout the west.

"Only by planned and controlled settlement can heavy individual and public losses be avoided," says the recent study on Prairie Population Possibilities, prepared for the Royal Commission of Dominion-Provincial Relations and completed this year.

It is an incontrovertible truth that the Prairies are depopulating rather than filling up. From 1921 to 1931 there was a net immigration of 40,718 people into the three provinces. From 1931 to 1936, 104,080 persons left. The Dominion Bureau of Statistics has also estimated that from 1921-31, 508,000 people came into the Prairie Provinces



NATURAL GAS is a very important Canadian asset, and its production is rising rapidly. The prairie provinces are especially rich in it. The picture shows excess gas in Turner Valley bursting into flame as it passes over the flare.

from outside Canada, and that therefore about 468,000 people failed to stay. Similarly immigrants to the Prairie Provinces from outside Canada between 1931-36 totalled 24,000 people. Therefore during this latter period a total of 128,000 people intending to establish permanent homes in the three provinces failed to do so.

There is also evidence that the ability of Prairie farms to provide a living for the natural increase of population is weakening under our present policies. Suggestions to let half the acreage lie fallow have been made. And we have little land left for farming.

Parts of what we have are drought stricken. A method of irrigating Prairie land is needed.

Natural gas has possibilities for irrigation which are vital to the continued development of the Prairies.

To begin with, there is a tremendous surplus of natural gas.

In the Steveville field of eastern Alberta during 1940, for instance, 150 miles east of Turner Valley, Standard Oil of British Columbia No. 1 Princess well, location LSD 13, section 22-20-12w4, drilling at 1,300 feet, encountered at 5,245 feet a gas flow estimated at 35 million cu. ft. a day. The location is on the northerly extension of the Sweetgrass arch on which several important producing areas have been located in Montana to the south. It took more than a week to get this wild well under control by means of special equipment and baroid mud. The idea was to deepen the well on down for oil, but on March 8, it went suddenly berserk, blew in with a roar that hurled heavy equipment through the derrick and caused it to collapse, injuring three drillers.

Big Producer

At last news this well was blowing not 35,000,000 cu. ft. but 65,000,000 cu. ft. a day, the gas being accompanied by a small amount of black crude oil in vaporized form. This new well is one of the largest gassers ever drilled in Alberta, ranking with the Range Oil & Gas Co., No. 1, on the Rogers-Imperial structure east of Coutts, which has a production of 50,000,000 cu. ft. a day. And with the Battleview No. 1 gasser, in east central Alberta, recently credited with a measured flow of 75,000,000 cubic feet a day.

There is no immediate market for the production. Such wells are capped.

Gas is being conserved to pump to Calgary in event of the failure of the Turner Valley supply.

By using this gas to operate old



CONVERSION GAS BURNER. This is a modern gas conversion burner suitable for installation in any coal furnace. This conversion burner has both automatic gas and electric safety pilot, thermostat heat controls. Suitable for artificial and natural gas. Manufactured by The James Stewart Mfg. Co. Ltd., Woodstock, Ontario.

struck in the field. Location is south and east of Vermilion and southwest of the Lloydminster field. Franco Oils Ltd. has also incorporated Franco Public Service Ltd., with a capital of 20,000 \$1 shares and office at Vermilion to operate a gas distribution system now being constructed at cost of \$85,000 to serve Vermilion. Franco is also negotiating for a franchise at Carlton, Alta.

Development work in Western Saskatchewan gas areas will be stimulated by the government board's decision that the company must not lay the transmission line within 200 feet of the Alberta boundary or draw gas from any Alberta source. Earlier plans to serve Saskatoon had contemplated using gas from Alberta centres.

Alberta's natural gas industry until the advent of the Steveville field consisted of fields at Medicine Hat, Bow Island, Viking, Foremost, and Turner Valley. Barnwell and Brooks were small gas fields, the latter supplying its town. Kinsella had a proven gas field which was not in use, and at Duvernay and Smith gas was discovered but not developed. At Pelican and Pouc Coupe, gas was discovered. Also important to the future war chemical industry of this country was the finding of a vast deposit of tar sands at McMurray.

The city of Medicine Hat controls the petroleum and natural gas rights on 36,240 acres in its vicinity, has drilled about 25 of the 60 wells which have been put down, and operates its own gas plant. The field had an original rock pressure of 560 pounds. After half a century of operation the last open flow test showed a rock pressure of about 390 pounds and a total daily flow capacity of about 33,000,000 cu. ft. Street lights burn continuously in Medicine Hat. Natural gas is so cheap that permanent operation is cheaper than the expense of turning lights on and off.

A low industrial rate of 6.1c per Mcf has attracted many industries to the little western city. Flour, stone, pottery and other clay products, brick, linseed oil, machinery, wood-work, candy and numerous other articles are manufactured.

One of the most beautiful industries in Canada lies in the greenhouse area of the city. A single flower grower has 9 acres of flowers under glass and

ships flowers as far east as Sudbury and west to Victoria on the Pacific Coast, selling wholesale to florists. Because of the low gas rate they are able to sterilize their soil and use it continuously. In a year this single greenhouse grew more than 235,000 'mums, a third of them for the Christmas trade.

Public Servants

Calgary and Lethbridge are served by the Canadian Western Natural Gas, Light, Heat, and Power Co., which controls 24 wells in gas fields at Bow Island, Foremost, Barnwell and Brooks. Its entire supply is purchased from the Royalite Oil Co. subsidiary of Imperial Oil Limited, which has large production in Turner Valley.

Northwestern Utilities Ltd., serving Edmonton, have gained from 1,800 to 12,471 customers in the past 16 years. From Viking-Kinsella-Wainwright fields in combination the gas reserves in this area are upwards of a trillion cubic feet.

This company extended its lines in Calgary, Lethbridge and Clareholm during 1939, with the result that 371 new customers joined the system. A hundred and seventy-six gas furnaces were taken on at Calgary and Lethbridge. More than two hundred new garage service lines were added to the distribution lines. The military barracks at Calgary and Lethbridge

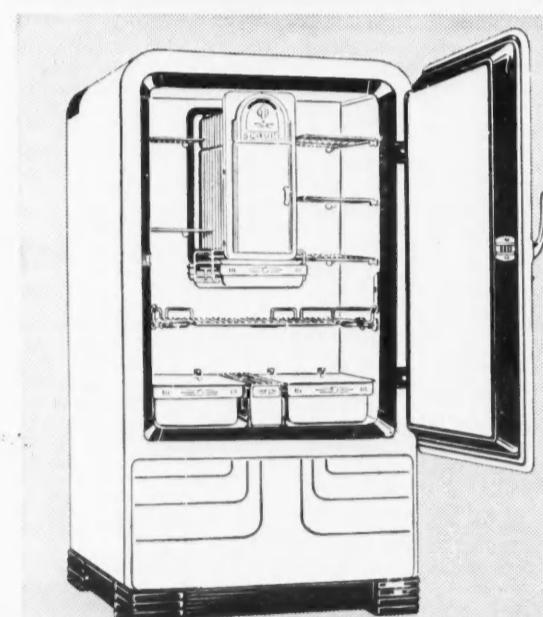
are burning between them 50,000,000 cu. ft. a year.

During 1939 13,000 of the company's 15,000 consumers signed for reduction of the domestic rate for natural gas from 33c to 27c. The commercial rate was also reduced by this company from 33c to 28c. There is now a readjustment of the minimum monthly charge from \$1 for 3,000 cu. ft. to \$1.50 for 4,000. Small users who rarely exceed the flat rate are allowed the right to remain on at the old rate with the \$1 monthly minimum. Calgary consumers thus save around \$178,000 a year on their gas bills. The gas rates committee of the city is also studying a proposal whereby the city would share in profits of the company.

Steps are being taken for the unitization of potential gas acreage in the Clearwater field 80 miles northwest of Calgary preliminary to a systematic development. The area was tested by Alberta Exploration Co., subsidiary of Canadian Western Natural Gas Co., in conjunction with Canyon Oils Ltd. High grade crude was obtained, and substantial quantities of gas with considerable naphtha content.

In northern British Columbia, the provincial government is drilling for oil and gas at Commotion Creek, west of the Pouc Coupe district of Alberta. Contract has been let to Newell & Chandler of Calgary at \$22.50 per foot for depth up to 7,500 feet.

This time get the refrigerator that's ALWAYS SILENT



Only Servel
Electrolux freezes
silently with
NO MOVING PARTS

OUT WITH THE OLD... in with the new! And make it a Servel! That's the cry of more and more families who are replacing their automatic refrigerators this year.

They know from experience... and what they've learned should be a hint to you, whether you're buying your first automatic refrigerator... or your second. See the 1940 models on display today.

- NO MOVING PARTS TO WEAR in its freezing system
- PERMANENT SILENCE
- CONTINUED LOW OPERATING COST
- MORE YEARS OF DEPENDABLE SERVICE
- SAVINGS THAT PAY FOR IT

AND BESIDES... THE 1940 SERVEL ELECTROLUX IS ADAPTABLE TO YOUR EVERY NEED

Dry Action Freshener

Dry or Moist Meat Storage

You Get Both

Dry Action Freshener keep vegetables and fruit always moist and full of flavor.

PLUS... Flexible Interior Arrangement, Trigger Releases for Trays and Cubes.

The SERVEL ELECTROLUX Gas Refrigerator

The Consumers' Gas Company of Toronto
19 Toronto Street
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AD. 9221

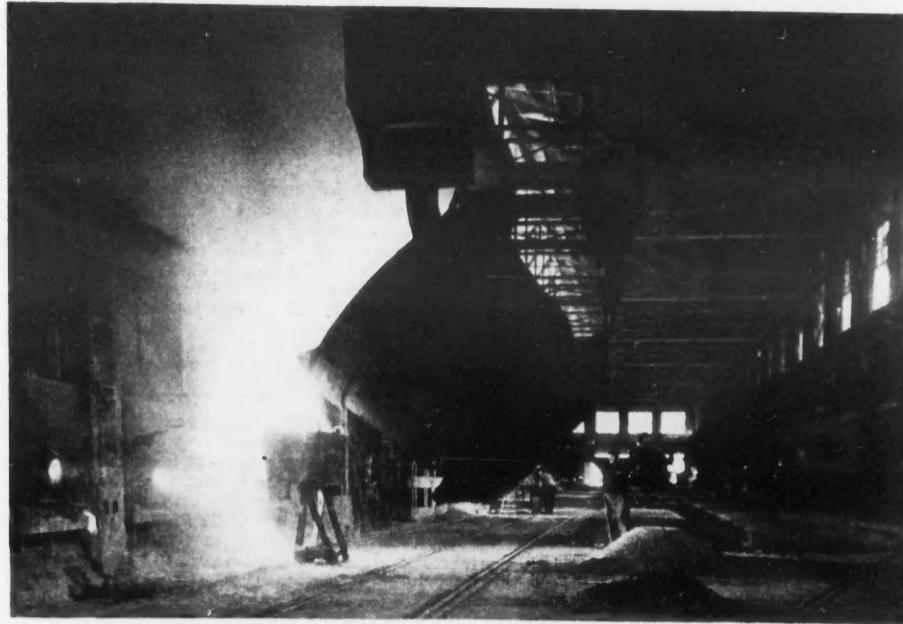
2532 Yonge Street

SATURDAY NIGHT

TORONTO, CANADA, AUGUST 31, 1940

Gas—Great Servant of the New Era

Do You Know What Gas is Doing to Help Win the War, to Advance the "Chemical Revolution", to Aid Industry and the Home-Maker? — Here's the Story, Packed With Surprising, Colorful Facts



GAS is the fuel for this operation, the charging of molten pig iron into a 175 ton capacity open hearth furnace of the Steel Co. of Canada Ltd. The gas comes from the coke ovens, shown below, after purification.



GAS FOR COOKING is preferred by Toronto's Girl Guides, some of whom are here seen working to get their Cooking Badge. In practical experience in high schools, technical and vocational classes, Canadian girls learn to appreciate the advantages of cooking with gas.

New World of the Blue Flame

How the Progress of Science, Holding Hope For Mankind, is Made Possible Through Gas

AVAPOR without substance, drilled from earth and borne from the ground with blue-brown plume of rushing oil, burned whitehot from veins of black rock, gas enters this grim decade as the starting infant of the war.

Gas, as it blows from the soil or is manufactured in the coke ovens of our cities, is entering its third distinct age in forty years. It assumes new guises more readily than Proteus, the sea god of Greek mythology.

At first it was light. In the haste and sweat of 1914-18 it became a warring world's fastest fuel. Gas which had heated the exterior bottoms of steel retorts entered chemical retorts themselves as a raw material during the war. It remained in the following years of peace as a prime necessity.

The Chemical Era

For the Chemical Era on this continent had begun. Chaos, destruction, reconstruction, Versailles, boom, wane and wailing, reform—it came. In the years of peace all North America could state that men's hands were making within our shores six times more of the necessities of civilization than anywhere else in the world.

Another war began.

The men to whom synthetic chemistry is an exact science know more about gas this time. In the last war a single gas company in England provided enough high explosives to fill 160 million eighteen pounder shells, 17 million gallons of tar, 29 million pounds of disinfectants in the last war and enough road tar to treat all the military roads on the western front. And this time the capacity of English and Canadian gasworks is increased by just half. Britain has a gas industry twice as large as Germany's.

The chemists who are the makers of our new world now know that natural gas is a mixture of hydrocarbons and non-hydrocarbons.

Hydrocarbons is a general name for bitumens,

mineral resins, and fats which are composed of hydrogen and carbon. You must know their names to be fashionable. They are a sample of the new world growing unseen about you every day.

It is composed of beautiful new names, this new world, which your children know better than you do—methane, isopentanes, nitrogen hexanes, propanes, carbon dioxide, butane, helium, ethane, heptanes, pentanes, hydrogen sulfide. It is a world which can be fractionated into parts by distillation—a sort of cooking—and the components of materials isolated.

Natural and manufactured gas are the sources of all these hydrocarbons in this new world.

Or by the use of dissolving agents, non-hydrocarbons may be extracted. Which opens up a new chemical continent. Such latter, helium and nitrogen, keep afloat the balloon barrage over London, and make the a.a. explosive which drives off Hitler's sky raiders.

Natural gas alone exists in Alberta as a raw material widespread over huge unbombable areas in literally trillions of cubic feet, stored in natural reservoirs underground to make life easier in the Canada to come.

Possibilities of man creating, full-blown from gas, the synthetic organic chemicals to fill a myriad wants are vividly apparent in wartime. Today industries in the foreground of the home front base themselves on this tapped wealth of gas and are mushrooming rapidly.

Like the years of this century, the story of this present age of blue flame is one of men building a future on the debris of yesterday's impossibilities.

Brooks and Humphrey, two chemists—two hard-working, matter of fact miracle men—were the first to show that alcohol "was present in diluted acid oil obtained by the sulphuric acid treatment of cracked petroleum distillates."

The jargon doesn't explain that the manufacture of synthetic alcohol from ethylene was condemned for thirty years because a famous chemist

who knew nothing about it published a memo saying it couldn't be done. Nobody thought they could put zippers on diapers either. Thousands of pounds of synthetic alcohol are now made from gases by this very process.

The explanation of Brooks, Humphrey, the Chemical Era, and gas the phoenix is a modern parable on the will to win—by way of William Murdoch, the man who made London's first gas pipeline from the jointed metal barrels of old muskets.

In 1919 the directors of one of this continent's largest chemical companies ordered the manufacturing of ethylene glycol stopped and allowed their patents to lapse because they felt it was only a substitute for glycerine, and a poor one at that. By 1939 millions of pounds of ethylene glycols and their derivatives were being sold at prices far higher than glycerine's—by another company. Ethylene glycol in 1940 fills the vital header tanks of cooling systems of hundreds of flashing fighter "Hurricanes," "Spitfires" and "Defiants" battling for the air supremacy of Europe's coasts.

"Dry" and "Liquified"

"Dry" gas—methane, ethane, propane—and "liquified" gas—isobutane and butane obtained by fractional distillation—and two non-hydrocarbons had by extraction—carbon dioxide, and hydrogen sulphide, the world's worst and most profitable smell—are used directly as solvents in the synthesis of the chemical raw materials which furnish your new world.

By "decomposition, oxidation, hydrogenation, and nitration" the hydrocarbons in dry and liquified gases are transformed. The first chemical raw material is carbon.

Only slightly less gas is used for making carbon black—handy for carburing gun, shell, and

(Continued on Page 18)



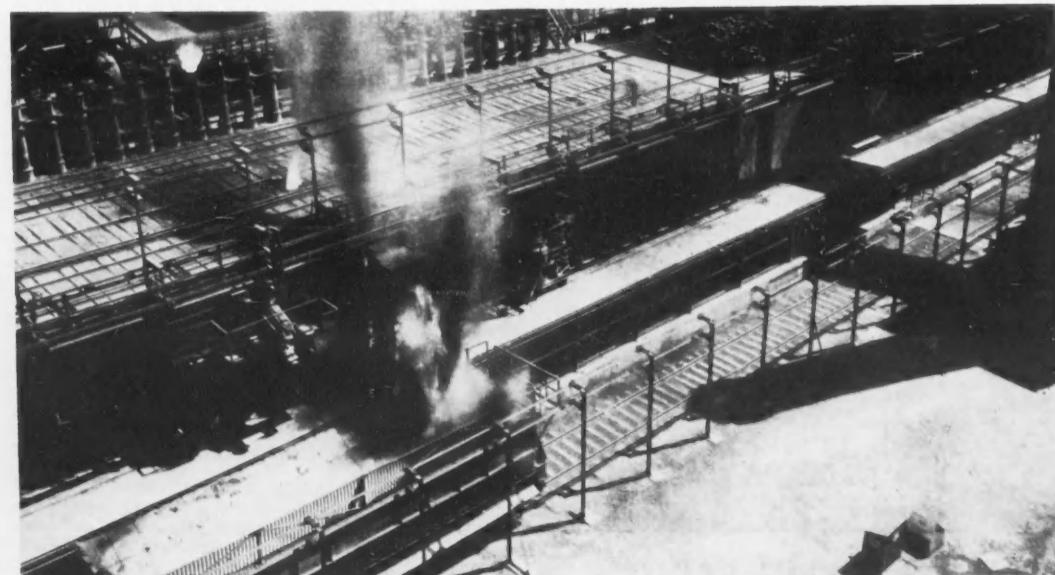
GAS figured largely in the making of this Plexiglas violin, which actually plays. Plexiglas is a clear, strong plastic.



GAS to the amount of 10,000,000 cubic feet is in this Ford Motor Co. holder, the world's largest welded structure.

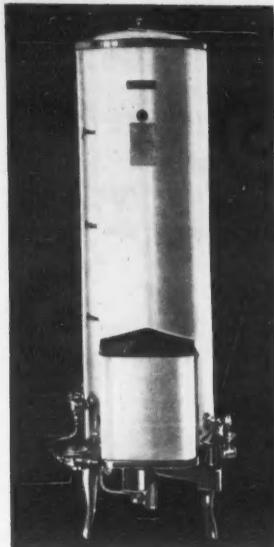


GAS is used in many industrial operations, the number of which is increasing steadily. Here are shown craftsmen using gas-fired torches in the making of silverware products. Gas is an extremely flexible, economical, convenient fuel.



GAS from these coke ovens, at the Hamilton works of the Steel Co. of Canada, is piped to various parts of the plant, including the open hearth, for use as fuel. From these ovens the coke goes on the company railway to the quenching tower for cooling.

Gas Appliances for Efficiency, Economy and Beauty

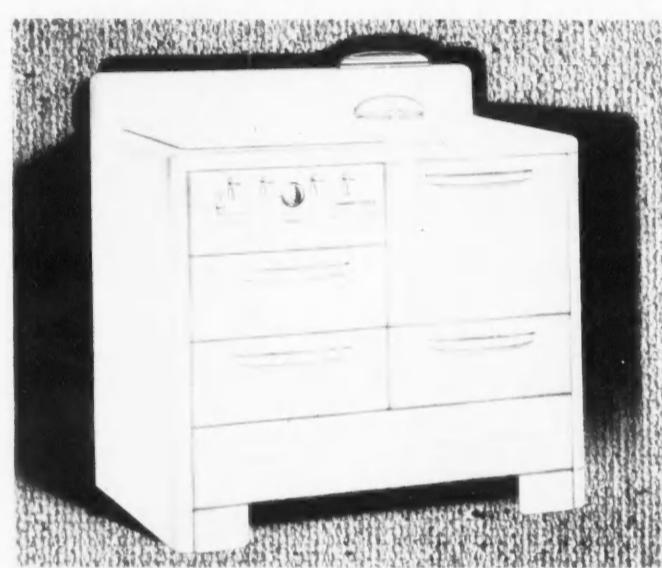


HOT-TOP Automatic water heater is intended for the average family wishing a continuous flow of hot water but not demanding an unlimited supply at a moment's notice. It features a Monel Metal storage tank with genuine rock wool insulation. Three metal studs project through to the surface to indicate the amount of hot water available. Extremely economical, this tank is guaranteed for twenty years. With automatic safety valve and heat control it keeps costs at a minimum and is beautifully finished. Manufactured by Ruud.

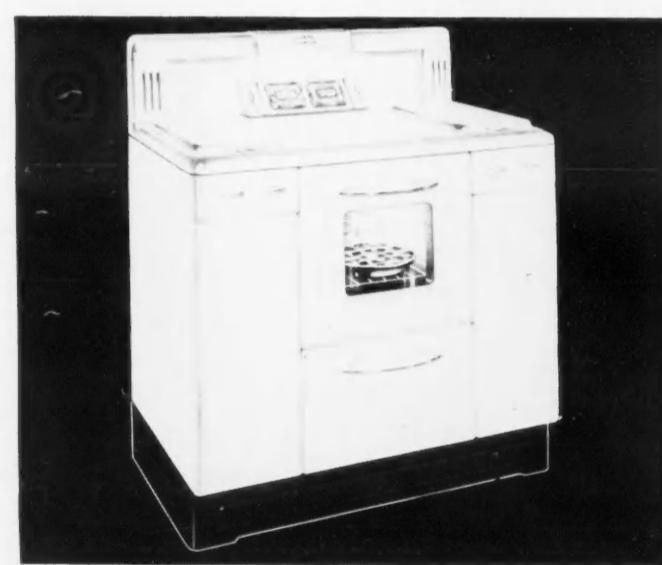
THE GURNEY kitchen-tested gas range "has everything"—Click Simmer Burner, automatic lighting, giant burner, new type top burners, smokeless broiler, heat control, precision oven, and is scientifically insulated to keep the heat in the oven and broiler—whereby it keeps the kitchen cooler and saves gas. It is backed by 98 years of Gurney craftsmanship and has passed with ease all the rigid tests imposed by the Gas Association on gas ranges before they are permitted to carry the CP (Certified Performance) Seal.

MCCLARY TABLE TOP GAS RANGE MODEL No. 25. A high quality range with all De Luxe fixtures, stain-resisting, one-piece cooking top and backguard with overall top $39\frac{1}{4}$ " x $23\frac{1}{2}$ ", has three standard Red-Hed burners and one giant burner. Oven $16\frac{1}{2}$ " x $20\frac{1}{2}$ " x $14\frac{1}{2}$ " with Visi-Therm oven heat control, heavy insulation, high speed low-temperature oven burner, rigid pull-out racks. Balanced oven door. Broiler with smokeless grid. Hi-Lo valves. Warming compartment with wire basket, pot cover holder, condiment set. Tilted streamlined chrome-plated handles. Floor space $39\frac{1}{4}$ " x $28\frac{1}{2}$ ". Extra equipment—Monel Metal Top, Minute Minder Lamp, Konomy Cooker, Automatic Oven Lighter. White or Ivory finish.

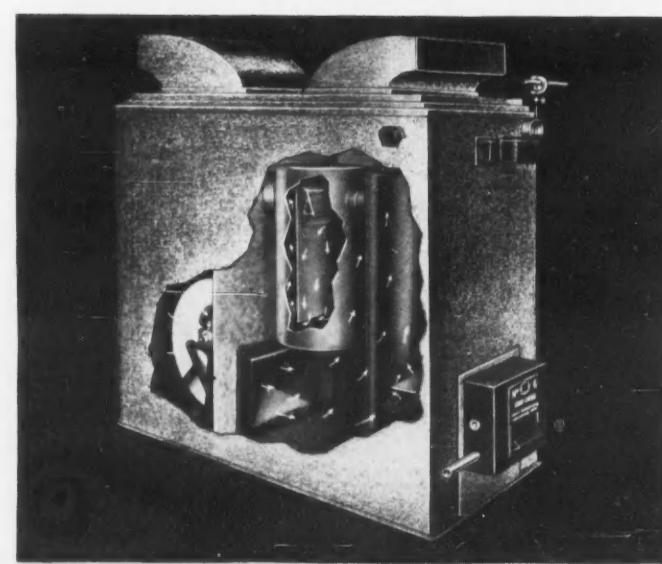
ACME DeLUX GAS RANGE has many special features: Flash-O-Matic Lighter (just turn the knob to light the gas, no danger of gas leak); porcelain enamel finish with acid-resisting table top; rust proof, non-corrosive burners (developed after intensive research for greatest efficiency and economy); cup-type solid burning top (prevents grease from spilling into jets—easy to keep clean) and many other features such as spacious table top, automatic heat control, ball-bearing broiler, four Harper-Weyman burners, Hi-Lo gas cocks, lamp, economical floor space . . . only $40\frac{1}{2}$ " x $30\frac{1}{2}$ ". Manufactured for The T. Eaton Co., and sold exclusively through The T. Eaton Stores across the country.



THE MOFFAT PRINCETON, provided with four "Simmer-Speed" dual burners, large super-insulated "3-in-1" oven full porcelain enamelled and equipped with two "super-speed low-temperature" oven burners. Super-insulated "Handy-Height Roll Broiler" and "Peasant-Ware" grill with enamelled pan and chrome serving tray. Large roll utility drawer and smart pottery condiments. The Princeton is also equipped with everything to make the housewife's lot a happier one—"Air Stream" cooking top, "Non-Sag" locking oven racks, "Lifetime" cooking chart and a host of other features.



NEW CLARE "CPV" RANGE. The latest model of the Clare Brothers Company, of Preston, Ont., who were among the first to produce and introduce gas ranges of the "Certified Performance" standard. This new model has many novel features, including the "Divided Top", the Visulite glass-panel oven door, new Visiguide for cooking time, Minute Minder, Timer clock, Servitray Top Covers, etc. It is one of ten new models in the Clare Jewel line.



GOOD CHEFFER Gas-Fired Heating Unit. Here is a modern up-to-the-minute gas furnace and air-conditioning unit. No matter what fickle winter demands, a finger touch on your automatic heat control instantly adjusts your home to the desired temperature, refreshed by clean, humidified, circulated, tempered air. Perfectly safe and well within the reach of the average pocket book. Manufactured by James Stewart Mfg. Co. Ltd., Woodstock, Ont.

Steps Saved Are Leisure Earned

THREE quarters of woman's work—and it's never done—lies in cooking food, washing dishes and washing clothes. Where a Miss needs lipstick and a comfortable male lapel, a Mrs. wants heat—a warm room, hot water for washing hot air for drying.

When linen enters the laundry on Mondays to be cleaned, whitened and sterilized, love flies to the clothes dryer.

Feminine curiosity is aroused most at the Exhibition by the gas clothes dryer, which is a part of a complete gas home laundry installation made up of gas washing machine, gas ironer, and the customary Ruud water heater. A gas clothes dryer is an enclosure or cabinet ten square feet in size in which rods or racks are installed for hanging the clothes while drying, and an automatic thermostat is provided to keep warm air at even temperatures.

Heating is the *only* sanitary means of really drying clothes. To properly dry fabrics, both heat and ventilation must be uniform so that gradual evaporation takes place, not the baking of the clothes.

At the foot of the dryer cabinet a completely enclosed gas burner heats a metal radiator. The gas flame does not act as the direct drying agent, and its products of combustion do not enter the clothes compartment but are carried off through a vent. The air heated by the radiator surface passes through the clothes compartment and evaporates the moisture from wet wash. Thus any possibility of gas odor in the clothes or of discoloration of white fabrics is completely eliminated. Only clean dry air enters the clothes compartment.

A gas clothes dryer works anytime, independently of the weather. Clothespins aren't needed. Much less time and labor goes into hanging clothes in a dryer than taking heavy piles of garments to an outside line. Chilly trips outdoors in the cold fall and freezing winter are done away with, as is the sight of hot water radiators lined at tea time with granpop's long underwear, common in apartments. Professional laundresses suffer from occupational hazards—rheumatism, neuralgia, and colds—as is well known in the medical profession—because they go with moist clothing from the warm steamy air in which linens are cleansed into the cold outer air to hang them up to dry. A gas dryer makes the whole rigmarole unnecessary and keeps the laundry where a wash is in progress dry by constantly removing moist steamy air.

Medicating wash, or odorizing it with oil of pine, etc., is very simple with a gas dryer.

Home linens are always superior to that done by an outside laundry. It prevents one from wondering just what dirty clothes were next to one's own in the washing, and is so very much cheaper that gas washers, ironers, and dryers are widely used in Canada as labor saving appliances.

moths, moth eggs, and moth larvae.

In the case of wash, sterilization takes place after ironing. Freshly ironed pieces are laid over the smooth rods of the dustproof dryer. When the ironing is finished, the dryer door is closed and sterilizing heat is turned on for an hour. The remaining moisture is removed from wash, and the whole washing really sterilized.

This method is employed in hospitals, children's nurseries, and places where doctors insist on hygienic methods.

Baby underwear, dresses and diapers are quickly dried with a soft natural texture, and there is no chance of running into the cleansing acids employed by large laundry companies.

Preserves Health

Children often catch cold in rainy fall weather by going to and from school in wet clothing. A warm dry coat or pair of shoes into which the son or daughter may climb when leaving for an end of *Ruu, Sheep, Ruu* is a welcome innovation. Indeed one of the best impressions a gas dryer makes is on guests who enter your home drenched with rain. As they leave you return their coats and hats to them warmed and dried.

Woollen clothing or blankets thought to contain moths may be easily mothproofed by turning on your gas dryer to 140° F. or more. Not a moth, egg, or larva can survive. Goods to be stored may then be shipped into mothproof paper bags for storage with confidence. It is a positive, certain way of storing clothes.

Medicating wash, or odorizing it with oil of pine, etc., is very simple with a gas dryer.

Home linens are always superior to that done by an outside laundry. It prevents one from wondering just what dirty clothes were next to one's own in the washing, and is so very much cheaper that gas washers, ironers, and dryers are widely used in Canada as labor saving appliances.

Gas Radio

GAS radio is the latest invention. Radio owners in the Prairies, where battery sets are many and natural gas is plentiful and cheap, will be interested in an invention which supplies reliable electricity suitable for operating any battery set direct from the heat provided by his domestic gas supply.

The machine is called a thermopile, or thermo-electric generator. There are no moving parts to fall out of adjustment. Briefly, the principle of its operation is that when heat is applied to a joint composed of two metalloids, a current of electricity is produced. There is nothing to do save light the tiny gas jets when current is needed, which may be done with an ordinary match. The current created is sufficient to run any battery set at maximum efficiency. When a high voltage converter is used in conjunction with the generator, no batteries of any kind are needed for operating the set.

Radio tubes have two elements, filament needing a low voltage of 2-6 volts, and plate—demanding high voltage of over 100 volts.

The Milnes thermo-electric generator is an English invention. An 8 watt model provides 1 amp at 6 volts, 2 amps at 4 volts, or 4 amps at approximately 2 volts. It will charge two or three low current cells in series, or an additional Mills high current supply unit direct. By the use of a converter it also supplies current of 2 volts, 1 amp, low cur-

rent, and 150 volts 15 to 20 m A. The thermopile uses about 8 cubic feet of gas per hour at a cost of 24.2c (per thousand cubic feet, domestic rate in Medicine Hat) for 125 hours. The thermopile is $15\frac{1}{2}$ " x $11\frac{1}{2}$ " x $7\frac{1}{2}$ " in size and weighs 24 pounds. Price at present exchange for entire thermopile and converter delivered in Toronto is about \$32 for the 8 watt model.

A Milne converter completes the all-gas radio installation. With the thermopile connected to the gas mains, current from the 8 watt thermopile is passed into the converter at 4 volts, and comes out at 150 volts, 15 to 20 millamps. At the same time 4 volt current for the tube

filaments is also provided. The converter is simple to connect. Extra-heavy low current leads are provided which are secured either to low current battery or generator as the case may be. The high current leads from the set are then plugged into sockets provided on an engraved panel, then the user forgets about his current supply. The converter looks after the high current supply. The installation is permanent. The converter with grid bias is $6\frac{1}{2}$ " x $7\frac{1}{2}$ " x $4\frac{1}{2}$ " in size and weighs $5\frac{1}{2}$ pounds.

Gas thermo-electric generator and converter together provide a complete electric radio power plant for the battery set owner, powered by gas.

Natural Gas IN THE Niagara Peninsula

Natural Gas Service, with its economical adaptability for many household and industrial needs, has been continuous in the Niagara Peninsula for over fifty years. Natural Gas is receiving greater public acceptance for Better Baking, Cleaner Home Heating, Automatic Water Heating and Silent Refrigeration.

PROVINCIAL GAS CO. LTD.
NIAGARA FALLS FT. ERIE WELLAND

HAPPY HEATING



A PRODUCT OF
MINNEAPOLIS-HONEYWELL

controls and control systems for heating, ventilating, air conditioning and industrial processing . . . since 1885.

"Jim, meet my pal—the new CHRONOTHERM. It keeps the temperature in our house just right, always. What's more, it shuts down our plant at night to a healthful sleeping temperature—which saves me fuel—and in the morning the house is as warm as toast for dressing. It's really two thermostats in one—and the electric numeral clock is the best timepiece in the house. I certainly take life easy now, Jim."

The CHRONOTHERM is completely automatic. You'll be amazed at its low cost—which is soon repaid in fuel savings. Ask your heating dealer about the CHRONOTHERM.

Minneapolis-Honeywell Regulator Co., Ltd.
117 PETER STREET TORONTO
Branches: MONTREAL WINNIPEG CALGARY VANCOUVER



J. B. McNARY, general manager and secretary-treasurer of the Canadian Meter Company, Limited, Hamilton, Ont., who was recently elected president of the Canadian Gas Association. Mr. McNary's experience in the meter business began with the D. McDonald Company in Albany, N.Y., nearly fifty years ago, the past forty having been spent in Canada.

Gas at War

THERE has never been such industrial production in Canada as we are now experiencing. Gas has never seen such service. Shipbuilding, the making of munitions, small arms, and aircraft, are all expanding tremendously.

Gas flames by the hundred thousand are spurring to meet demands.

In forging and heat treating departments for the relief welding of large welded units, turbine casings, and parts which come in contact with high temperature steam; in the tool shops where it is used for hardening and tempering; and in pipe shops where numerous annealing, forging, brazing, and bending and welding operations take place, gas heat is universally applied to our war effort.

Tool shops in our shipbuilding industry use gas for hardening and tempering the many hundreds of tools which are used in putting together a hull, fitting it, and installing the liver and lights to make it a ship.

Pipe shops are the places which construct the tubes and conduits on which our civilization rests, roosts, or rars up—according to your polities. Relief annealing furnaces, tinning furnaces, open hearth brazing forges, rosin kettles for melting the rosin used in copper tube bending and several portable gas torches likewise used in tube bending are essential equipment.

Aircraft parts are a vastly different, vastly more complicated affair. Whether or not the rupture of a piece of aluminum equipment in an airplane took place within or beyond the factor of safety built into it is simply a matter of checking back to its origin as a chunk of pig metal. Aluminum is very "open" in the hot state. If it is melted too fast, it is agitated to the point where oxidation sets in, which is rated as "dirt". Aluminum melts at 1217° F. and must be poured promptly when it reaches 1250° F., which is why gas is used—accurate control. Higher temperatures are bad for aluminum. At 1425° the added alloy is destroyed by cannibal molecular action within the aluminum itself.

Varied Uses

Oven furnaces for heavy annealing and hardening have low temperatures—between 1,400 and 1,500° F. High speed hardening furnaces reach 2,400° F. Cyanide bath, used in case hardening, operates around 1,600° F.

The gas applications in production of a rifle or revolver are innumerable. There are 1400 to 1750 operations in making a Colt revolver, more in making a Bren gun. Gas is used in forging, heat treating, normalizing and hardening, finishing and bluing. Machined parts of guns conform to tolerances of 5/10,000 of an inch, and as many as 26 different gauges are used at one inspection bench.

Gas is used for coloring, preparing furnace atmospheres for brazing, for air drawing and annealing. Barrels are heat treated, small parts forged, coloring salts melted, soldering and high speed tool hardening accomplished with it. Chemical treatment of bores of rifle barrels to inhibit rust and corrosion is now carried out by gas.

The steely blue finish on revolvers is due to a gas process. In the Colt bluing room at Hartford, 30 large furnaces and eight small parts furnaces are used. The important thing is to guard the surface of the steel against moisture. Frames, cylinders, barrels, slides, receivers, and other parts come to the bluing room direct from polishing. Everything is first given a bath in hot gasoline to remove dirt, dust and grease. Bluing racks are built to hold parts about which air will circulate. A secret mixture of charred bone and primer is used. And readings are taken every fifteen minutes during the five hours of the process. Four gas-fired burners supply the heat in each furnace. The primer gives off smoke which keeps free oxygen away from the parts being blued and all the coloring is done by gas heat.

From these factories come the .50 and .30 calibre machine guns used on tanks and the Browning machine guns with which aircraft are fitted.

Truly gas is the power, behind the man, behind the gun.

\$10,000,000 of Curiosity

WHEN craftsmen were more numerous than they are now, the worth of what they made depended on the personal conscience of the man who made it, and its price on your ability to bargain.

Mass production brought down the price.

And mass production competed successfully. But not without a conscience of its own.

Industrial laboratories are the conscience of our largest industries. Such laboratories exist to develop standards of final performance. They are supported by the manufacturers throughout an industry to bring about an integrated progress on a broad scale.

The ten million dollars' worth of curiosity about gas in Canada and the U.S. which has been the reason for existence of the Cleveland and Los Angeles laboratories of the American Gas Association, has raised the efficiency of gas appliances by a third, has helped to create more than 30,000 gas appliances which do everything with the fuel from toasting bread to making ice cream with fire in the middle of deserts.

Efficiency

Curiosity on an industrial scale is an overwhelming thing. The efficiency of 90% of all the gas equipment north of the Rio Grande depends on these two laboratories. There are fifty corporations now applying for tests of their wares. The tests of a single gas range bought in any Canadian store count up to more than 550. Heaters of air space, water, gas accessories, gas floor furnaces for use without

cellars, all are gone over continuously. The AGA laboratory has organized more than 300 men in key positions in the Canadian and American gas industry on 32 of its committees which delve into gas problems.

Improvements take place by the hundreds.

During 1939 several major projects were completed. The use of a test burner for the study of yellow tipping, flashback, and tendency to blow from ports results in defects of many small gas appliances being definitely overcome.

A thorough study of gas range top burners when using wash boilers likely to boil over and swamp the flame was undertaken. The result was a pilot light designed to relight the burner, or to cut itself off completely and automatically every time.

Standards for the operation of ranges and water heaters on liquefied petroleum gas were adopted. Use of electric ignition on the top oven burners in gas ranges was also probed.

Commercial cooking appliances are widely used and need rigid standards. Here laboratories achieve results spreading over broad fields. During 1939 the equipment for deep fat frying and unit broilers in hotels was redesigned for further safety. Portable gas baking and roasting ovens were brought into common circulation for the first time to serve hot lunches in the open. Lunchroom appliances such as counter toasters, coffee brewers and urns, steam tables, dishwashers, roll warmers, bain maries, waffle bakers, sterilizers, hot plates and griddles are markedly improved. The millions of people who lunch downtown in the business sections of our cities

now benefit from the research.

Revision upward of existing standards is another path for progress. Combustion tests for gas ranges, the efficiency of warm air gas furnaces, the use of modified pressure-drop controls for central heating furnaces, were begun.

And not a hundredth part of the knowledge gained ever reaches John Public directly. People realize it only as chance brings them into contact with gas in use and they see the results obtained. Gas has been in use more than a century, yet the progress in gas modernization in the past six years has been greater than that of the preceding forty.

Flexibility, Speed

Details like the mounting of furnaces and boilers in portable metal bases so that they are easier to handle, the mounting of water heaters on raised platforms for accessibility, the design and construction of new combustion meter cabinets for bottled gas cylinders, add both flexibility and speed to the use of gas.

The standards are upheld by test calls and inspections. Of 500 made during the year, less than 2% of the equipment in service had faults which needed correction.

The increase of business caused by the modernity of gas brought about lately by research occurred at such a rate on this continent last year that ten new research assistants had to be hired by the AGA laboratories to cope with the press of work. The staff of 81 has been enlarged again this year to handle the curiosity about gas developing in two neighboring countries.

THE CANADIAN METER COMPANY LIMITED

..... in serving the Gas Industry since 1900, has consistently exerted its leadership by pioneering and maintaining high standards which govern the calibration of meters and the measurement of Gas in Canada.

THE CANADIAN METER CO. LIMITED

88-90 Caroline St. N., Hamilton, Canada

Gas for the 4 big jobs!



Gas bespeaks the modern mood—comfort and ease in the home. In many new homes that are being built GAS is the fuel—for cooking, for heating, for water-heating and for refrigeration. Many owners, too, are modernizing their present homes with GAS for the FOUR BIG JOBS!

1

STEP INTO THE KITCHEN

GAS is the fuel used in the smartly designed range that makes cooking speedy, economical, and a true pleasure.

2

TURN ON THE HOT WATER

GAS for a low fixed monthly amount (no heater or tank to buy) supplies abundantly hot water for modern living.

3

FURNACE TENDING IS GONE

GAS keeps homes at an even, comfortable temperature without the slightest attention—light the pilot in the Fall, that's all!

4

PERMANENTLY SILENT REFRIGERATION

GAS by a tiny flame in the Servel Electrolux Refrigerator gives completely silent refrigeration to preserve foods in all their natural goodness.

The CONSUMERS' GAS COMPANY

19 Toronto St. 2532 Yonge St. 732 Danforth Ave.

AD. 9221

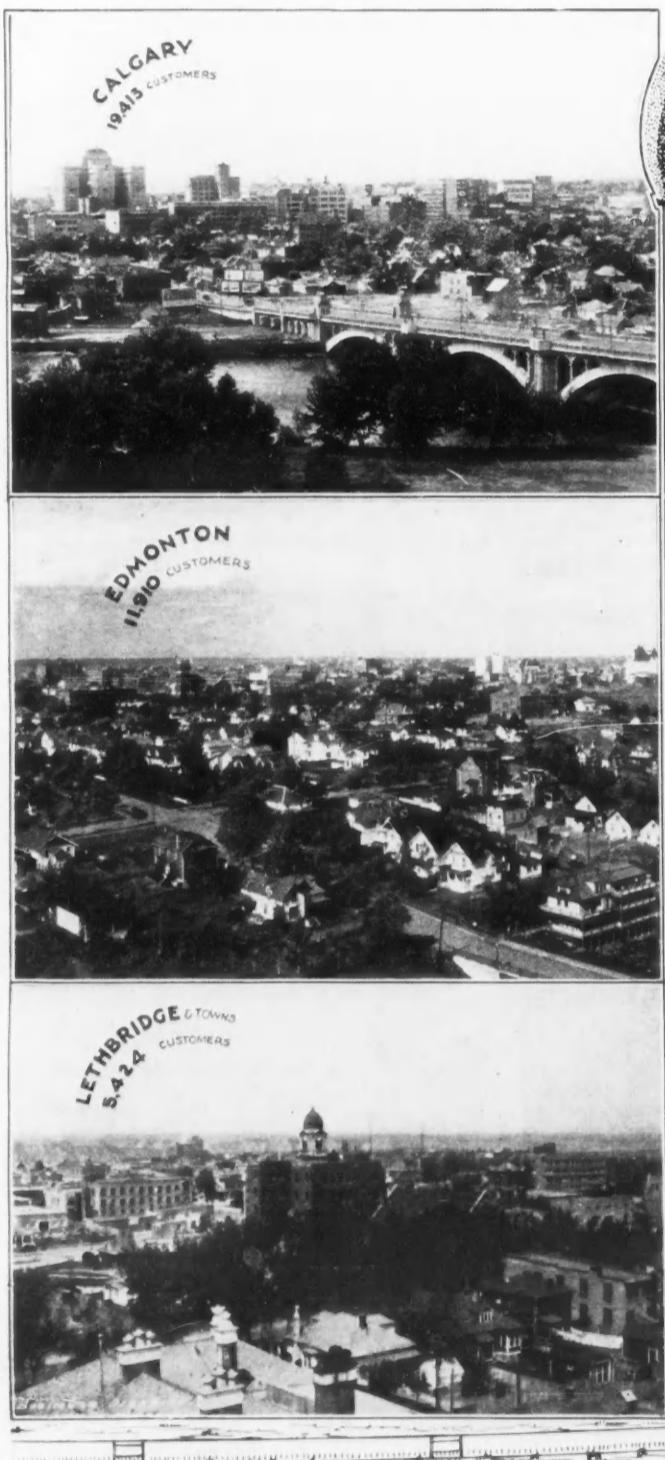
You'll find your
New Stove at

Simpson's

You're sure to find the stove you want at Simpson's—the selection is so wide and varied! There are new, streamlined models, with smooth, easy-to-keep-clean surfaces, to suit every requirement and every budget. And note: purchasers in the Toronto delivery area may buy stoves on Simpson's special Home Lovers' Club Plan with no down payment and no extra charges. 10 equal monthly payments begin one month after date of purchase. Visit the Stove Department on Simpson's sixth floor, today! See the latest models in the following popular makes:

- GURNEY
- FINDLAY
- McCLARY
- CLARE JEWEL
- MOFFAT

SIMPSON'S—SIXTH FLOOR



THE
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LIGHT, HEAT AND POWER CO. LTD.
HEAD OFFICE CALGARY

NORTHWESTERN UTILITIES LTD.
HEAD OFFICE EDMONTON

Gas Freezes Food Against Famine

"CANNING" on the farm or in city kitchens is on its way out as a means of preserving food.

Europe has food shortage snowballing into famine while Canada's 1940 crop year is heavier than expected.

But food preservation is out of individual hands now. Literally hundreds of privately or co-operatively owned public ice-box companies are springing up on this continent to store our food against the future by means of gas refrigeration.

The reason: costs are much less to the housewife and the farmer.

Plants to freeze and store food for the public have this in mind—and something else. A complete "locker" plant has eight departments, in separate rooms for chilling, ageing, cutting or processing, quick freezing, curing, lard rendering, smokehouse, and locker rooms. Today farmers go to cold storage locker plants; rent lockers big enough to hold 250 pounds of meat or 6½ cubic feet of any food for \$10 a year. The plants quick freeze their meat, slaughter animals, at \$2 a head for cattle, \$1.50 for hogs, and 75¢ for sheep, render lard for 3¢ a pound, and prepare and quick freeze vegetables or fruits for 2½ to 3¢ a pound.

When meat or food which you bring into these plants has been placed in the chill room and then aged properly, it is cut into family size portions

of steaks, roasts, hams, bacon, etc. and the fats removed in the cutting or processing room. Each parcel is then wrapped, weighed, dated, and marked with your name.

Your meat is next placed in the quick freezing room where it is frozen almost immediately at temperatures held by gas between 15° and 30° F. below zero. Quality, flavor, and texture are all preserved.

After the meat is frozen solidly to the bone it is placed in your locker. For your \$10 deposit each year you receive two keys, one to the food storage plant and one to your locker, and the right to borrow an overcoat from the rack inside so you won't catch cold getting your food out of the locker room, where gas keeps it at 0° F.

Almost three quarters of these



COLD STORAGE LOCKER plant at Strathmore, Alta., which gives residents of that district the benefits of fresh vegetables, fruits and meats all the year.

Quick Freezing

Freezing process is ice-cold lightning which has been used for the past three years. It is called "quick freezing" and is the basis of the present frozen foods industry. When a pea, for instance, is quick frozen, the moisture in it crystallizes into small fragments of ice which do not break the microscopic cell walls of the vegetable. Crystals of ordinary size, frozen at ordinary rate, do rupture cell walls because they are much larger, and decomposition sets in rapidly throughout the darkened, toughened, fruit. Pheasants originally frozen in a water-filled milk can over twenty years ago came out of the ice three or four months later fresh but slightly tough. With newer methods of gas refrigeration this whole new food industry is on the boom.

Most farmers don't have foods that are ample, varied, palatable, cheap, and available all year round, in spite of the fact that they raise foods. They can't keep what they raise.

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Progressive Expansion IN SERVICE AND SALES

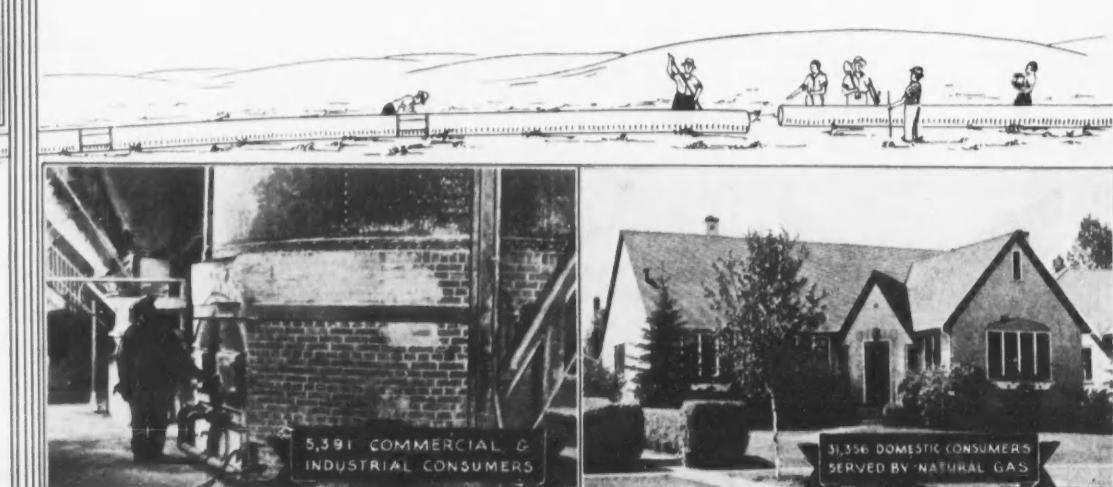
Enables these two Alberta Utilities to Maintain their Leadership in the Canadian Gas Industry

Territories—These two Companies distribute Natural Gas to the Cities of Edmonton, Calgary and Lethbridge, and to 24 towns and smaller communities. Combined population aggregates over 200,000.

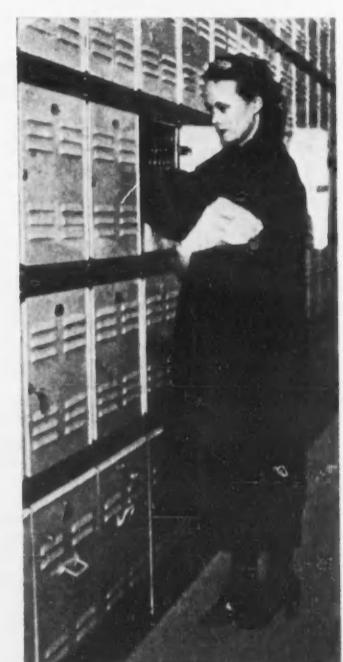
Consumers—In the area served the Companies distribute Natural Gas to 80 per cent of their possible customers along the existing 1,000 miles of mains.

Sales—Last year 36,747 consumers used 10,479,127,000 cubic feet of Natural Gas—the equivalent of 763,942 tons of coal.

Rates—The Natural Gas has a high B.T.U. content and is distributed at rates which are among the lowest on the Continent. The average being 30.18 cents per M.C.F. for all classes of consumers, and as low as 16 cents for industrial use.



NO MORE CANNING! You buy your fruits and vegetables at the peak of the season, place them in your cold storage locker, and enjoy them, fresh and unspoiled, when the season is past.



plants are at present in farm areas. Housewives, however, can save money on their annual city meat bill—as much as \$100 for a family of five, by buying their meat alive on the hoof, or by buying a side of beef wholesale at little better than half the butcher's price and having the locker plant's butcher cut and quick freeze it.

And your meat can be cured prior to smoking, the lard rendered for you, and smoked meats provided.

There will be 4,000 of these plants spread close to both sides of the Canadian-American border at the end of 1940. A thousand of them were built in 1939. Gas is used at most of them for lard rendering, smoking meats, hot water heating, for comfortable space heating, but above all for clean, silent, permanent refrigeration without moving parts.

Public iceboxes located in the city will probably differ from rural plants in having a central butchering and rendering plant which will do the work for housewives whose lockers will be near them in various parts of the city.

Gas-Fired Boilers

Small, gas-fired, automatically controlled high pressure boilers supplying steam to a steam-jacketed kettle capable of rendering up to 75 gallons of lard per batch, are being built for these little 100 to 600 locker public iceboxes serving towns from 3,000 to 15,000 people. It takes about 4 hours to render a batch of lard, which is then divided and placed in containers in the lockers of the customers who provided the fat from which it was taken. Operators of automatically controlled gas plants start to render lard at night, lock up the doors, go home, and return next morning to find the lard properly rendered.

If the steam-jacketed kettle is made of stainless steel, aluminum or copper, it can also be used for scalding whatever fresh fruits the women customers of the public icebox bring in, prior to their quick freezing. This method of preserving fresh fruits and vegetables is becoming so popular that cellar storage of pickle and preserve bottles is no longer necessary. The only work to be done is the ordering of the fruit and vegetables. The gas operated public icebox takes care of the rest. Women who live in apartments and have no storage space are responsible for the success of public iceboxes.

Other Gas Uses

Use of gas in smoking meats is not new, for meat packing plants have used it for years. In these smaller smokehouses of food storage plants, ham and bacon are the meats mainly smoked, and a smokehouse with a capacity of 65 hams or 75 slabs of bacon meets the requirements of a thousand locker plant.

Gas is sold to public iceboxes at about 20¢ per therm.

Automatic gas fired storage water heaters are used for cleansing the knives, containers, and other equipment, which insures cleanliness necessary in a public food locker plant.

Gas fired space heaters maintain the reception rooms of locker plants at comfortable temperatures summer and winter for the additional business transacted by farmers and housewives, who come and go as they please to replenish or remove their food stocks for the family's supper or week-end. Fresh-frozen meat and fresh fruit and vegetables cost them half the price at any time that they would be in season, and much less than the out-of-season prices of the rest of the year.

They don't have to wait for prices to come down to achieve a permanently healthy diet.

Two of the reasons behind this \$40,000,000 industry:

It costs only about \$10,000 to set up such a plant.

And few of them when set up have any empty lockers on their hands. Most have waiting lists of customers. The risks are small since consumers themselves carry the inventory of frozen foods.

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Automatic Gas Controls

THE progress of man has been marked by his search for greater relaxation and comfort, and more leisure time to enjoy the fruits of his toil. Progress in our century has produced many wonderful and amazing discoveries to provide a fuller enjoyment of life. Everyone can think of scores of new discoveries, and developments and improvements on previous discoveries, whose mass production and consequent widespread distribution has played a major part in raising our standard of enjoyment, comfort, and convenience.

So too, in the field of heating, improvements and new discoveries have made their 'contribution to better living'.

Man's home is his castle! In his age-long struggle for existence he has sought consistently to enhance the surroundings of his domestic life. From early days, man's home has been his source of inspiration and comfort, a place to which he may retire to repair his strength in relaxation and leisure before going out again into the world in which he earns a living for himself and his family. Modern automatic gas heating today makes his home an even greater source of pleasure and comfort, because one of early man's major problems — keeping himself and his family warm—has been removed.

First, among primitive peoples, we had the outdoor fire, about which the hunter and his family gathered. Then came the blaze at the mouth of the

cave, which was the first attempt at home. A later step was the use of portable dwellings—tents—with openings at the top so that the fire, now moved inside, might throw off its smoke and fumes. This was the first attempt at indoor heating. The only real improvement in this method for centuries, even after the building of solid stone and wood structures, was the invention of the fire-place and its attendant chimney. This method of keeping warm lasted until the stove (built out of stone, and later of iron,) was created.

The invention of the stove involved the creating of artificial draft for keeping the fire alive and increasing the volume of heat. Stoves served our ancestors for a long period.

During all this time, there was no thought of control as we think of it today, and very little attention was paid to the distribution of heat beyond the immediate surroundings of the stove itself, except that on occasions, the smoke pipe was run from the stove in a lower room through the ceiling to a loft or upper room. This pipe gave off a secondary heat which warmed the upper chamber.

Then came the furnace, or heating plant, placed in the basement. Pipes led from it to the rooms of the structure it heated. There still was little thought of control beyond draft and check dampers operated by hand. The problem of holding the fire down at night was solved by banking with ashes or coal and by closing the draft damper — allowing temperatures to drop and necessitating morning rising in cold and discomfort.

The Trend to Gas

The development of hot water and steam plants was practically coincident with the hot air or 'salamander' furnace of our forebears. There are references in history to early heating with hot water or steam, during the Grecian and Roman eras, chiefly for tempering water in marble baths, but these efforts bore little relation even to our first hot water plants. However, whether the method was hot air or hot water, any means of control to increase heat distribution or fuel economy was not thought of. Wood and coal were plentiful, labor to tend fires was cheap.

Coincident with industrial expansion came other forms of heating. Wood became scarcer, and coal all but displaced this method of heating even in domestic systems. Then, as heat controls were developed, this allowed for a quick expansion of gas heating. Here was a fuel which was easily handled and did not require fuel storage space. The widespread development and utilization of gas has been paralleled by a similar development in gas heating controls for automatic operation. Automatic gas heating has reached the most advanced stages, due

to the assurance, by means of automatic controls, that the gas is admitted to the furnace, ignited, and consequent heat supplied as required.

So largely are controls a part of the modern gas heating plant, that most manufacturers consider them as equipment to be installed as a unit system with the gas heating plant. Today, there is a control system designed for every type of gas heating equipment. The only variation rests with the ultimate degree of comfort desired by the purchaser of the heating plant equipment. In fact, so much a part of the modern heating plant is the control system that a large portion of the consumer public is unaware of what the controls are or what function they perform.

A Typical System

Let us consider a typical system. It is a forced warm air system, using either natural or manufactured gas, or a mixture of both. In the living quarters will be installed a modern thermostat of the numeral clock type, commonly called 'Chronotherm'. Its handsome, streamlined appearance harmonizes with any type of home furnishing from the commonplace to the most lavish, with equally pleasing effect. Aside from controlling the room temperature at a constant level and providing completely automatic control of the heating plant at all times, it is, in addition, an attractive and efficient time-piece, keeping accurate time by means of a self-starting electric motor driven clock as reliable as the source of electric power that drives it.

It contains a mechanism for automatically lowering the temperature at night when sleeping comfort demands it, and bringing it up again in the morning when higher comfort temperatures are desired. As it can be set to shut down at any desired time in the evening, and likewise can be set to raise the temperature at any desired time in the morning, an adequate supply of heat is always available to take off the chill during the morning dressing. In addition to the comfort of lowered night temperature, it has been proved that fuel economies as high as 15 per cent. or more, result. Thus, it can be seen that the modern room temperature control pays for itself in a season or two, and year after year continues to pay dividends in fuel savings.

The room thermostat, or Chronotherm, functions to open or close the gas valve to the burner in response to slight changes in room temperature. The valve may be a magnetic, a motorized, or a diaphragm actuated type, depending largely on the choice of the furnace manufacturer to meet the particular characteristics of his burner. The motorized and diaphragm actuated valves usually are equipped with damper arms to permit the right amount of auxiliary air for efficient combustion. Magnetic valves usually are installed on burners where auxiliary air ports remain open all the time. This arrangement is usually satisfactory because of the quick opening feature of the magnetic valve. An automatic pilot and shut-off valve will be installed as a safeguard against possible flame failure.

Efficient Controls

As this is a forced warm air installation, provision must be made to start the fan at the proper time to deliver air to the heated space at just the right temperature. Consequently, there will be installed in the furnace bonnet, or plenum chamber (the warm air space above the combustion chamber), a combination furnace control.

In order to guard against overheating the furnace (suppose a window is open so that cold air strikes the room thermostat), the combination furnace controller is equipped with a high limit switch to shut down the burner when the air in the bonnet temperature reaches a predetermined setting. An additional feature of the most modern fan controller is the addition of an over-run switch in the combination control which will start the fan automatically on those rare occasions when the bonnet temperature exceeds the limit control setting by 50° or more.

Automatic controls play a similar role in the operation of hot water or steam systems. The same thermostat and gas valve may be used on either, but limit controls for boiler mounting vary with each system.

Gas burner controls, as with other products such as motor cars, etc., have been developed and improved through years of research and engineering. These controls used ten or fifteen years ago are less efficient, less accurate, and generally require more service due to constructional features.

A modern control system pays for itself in a very short time due to resulting increased combustion efficiency, control accuracy, comfort, convenience, and automatic lowered night temperature.

Improved production methods, construction simplicity, and modern engineering, supported by increasing sales volume have resulted in much better and more efficient controls and control systems at the lowest prices in history. The high degree to which automatic controls have been developed, their comparatively low cost, and their importance to the efficient operation of gas, or any other type of heating has made it possible for even the most modest type home to have automatic heat.

The New 1940 MOFFAT ROPER GAS RANGES



The "Princeton" (Illustrated above) fulfills more than the 33 "Certified Performance" requirements necessary to carry the official C. P. Seal. This beautiful model has a host of the famed Moffat features that make Cooking Perfection a certainty.

Today, the Moffat Roper "C.P." (Certified Performance) Gas Range is a demonstration of the result. It gives you "Cooking Perfection". In smart appearance, cleanliness, speed, economy and convenience, it is a dream that must be seen to be believed.

When you buy your own new gas range, insist on a model bearing the "C.P." Seal—your positive guarantee of Cooking Perfection.

Produced in Canada by

MOFFATS LIMITED
WESTON, ONT., CANADA.

Good Cheer GAS-FIRED Heating Equipment

Gas—The Perfect Fuel
for Comfort in Heating
CANADA'S CLIMATE DEMANDS efficient, sturdy and skillfully designed Heating Units, that have stood the test over a period of years.

ALL-GAS HEAT LIBERATES YOU FROM
HOUSEHOLD HEATING CARES AS NO OTHER FUEL

"GOODCHEER" WINTER AIR CONDITIONER

Provides Extremely Low Cost Heating with Gas. It's no longer a Luxury. The cost of a complete Automatic Unit is less than with any other class of fuel and the heavy welded steel heat chamber will last longer than with any other fuel.

THE SAFETY FEATURE IS PERFECT—Think what it Means—All controls concealed—100% Safety in your child's playroom.

WHAT A COMFORT—The indoor weather is just what you choose—Clean, Humidified, Circulated Tempered AIR.

BASEMENT MODERNIZATION IS PERFECTED with GAS HEAT

"GOODCHEER" GAS CONVERSION BURNERS

are suitable for every type of Boiler or Warm Air Furnace without any alterations, other than removing the grates.

OVER 10000 IN USE

A TRUE SIGN OF SATISFACTION
BURNER DESIGN combines all the outstanding developments in recent years in the use of gas for house heating.

HEAT RADIANTS are a major factor in the Burner Efficiency. The firepot must be heated at the lowest point.

GAS HEAT has solved many heating problems—and in many cases costs less.

WRITE FOR LITERATURE
STATE YOUR REQUIREMENTS

THE JAMES STEWART MANUFACTURING CO., LIMITED

FACTORY: WOODSTOCK, ONTARIO WINNIPEG, MANITOBA

BUILDERS OF HEATING EQUIPMENT SINCE 1845

"YOU MEAN IT'LL LAST TILL I'M GROWN UP?"

Grown up days seem a long way off to small Johnnie. But when he is grown up that "Monel" Hot Water Tank will still be giving good service. You see, "Monel" is a solid metal that can't rust. That's why a "Monel" tank will outlast several cheaper tanks and pay for itself over and over again.

In RUUD and WHITEHEAD Heaters

A "Monel" tank makes the best water heater still better. It ensures rust-free, sparkling water and eliminates a lot of costly service troubles. Today thousands of Ruud and Whitehead Gas Water Heaters are delivering better, more economical service because they are equipped with "Monel" tanks.

Monel
HOT WATER TANKS

WHITEHEAD METAL PRODUCTS CO. OF CANADA LIMITED, 25 King St. W., Toronto
A Subsidiary of
THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED

ING! You buy
ables at the peak
in your cold
enjoy them, fresh
the season is past.

Street Department Supplies



Shipment from Stock

Goodman Stoppers
Goodman Cylindrical Stoppers
Gas-Feden Stoppers
Gardner-Goodman Stoppers
Gas Main Bags, Rubber
Gas Main Bags, Canvas Covered
Inflating Bulbs
Gas Bag Pumps
Pressure Gauges
Gas Sampling Bags

SAFETY GAS MAIN STOPPER COMPANY

523 ATLANTIC AVENUE,
BROOKLYN, N.Y.

Cable Address: Gastopper, N.Y.

New World of the Blue Flame

(Continued from Page 13)

tank steels, than is sold for cooking in all the stoves in all the homes in never mind.

Gas, natural or made from coal, is divisible as the mind of a stag line. Acetylene, which today's girls know as an important primary product in blue flame's new world, is made from methane and used in wartime for cutting and welding steels and making airplane parts.

Acetaldehyde, a medicinal solvent, is a secondary product of it. Vinyl acetylene is a rubber substitute extremely important to any nation which wants to be self-sufficient, is commonly used under the name of neoprene—worked by girls in our war industries.

Such secondary products are literally numbered by thousands in this new world of gas. Hence the amazing rebirth of the gas industry these past two years.

One single firm, not large, numbers more than 100 commercial chemicals spreading from the smoothly-named olefine hydrocarbons in natural gas. These include 24 alcohols, 4 ketones, 23 esters, 13 amines, 35 other chemicals, and competition hasn't yet begun to open up the field. Prestone, vinylite

resins and a new synthetic yarn for women's gams come from it. This one example in a Canadian industry of 745 companies sees its parts of the new world passed on the processing of just about everything everywhere. From just one olefine, isobutylene, 71 different items are fabricated.

Liquid or solid, in the new world, blue flame makes it.

Natural gas with a composition of 100% carbon dioxide makes dry ice for your cocktail glasses.

Hydrogen's ends are poles apart—cutting or welding gun steel, or making Crisco and other fats from vegetable oil for mother.

Wartime Uses

But by hydrogenating mineral oils a set of aviation gasolines and lubricants emerges.

Ammonia for natural gas either fertilizes a farmer's soil or keeps the fruits it grows cold and good as a refrigerant.

Acetylene again gives the carbon to power army dry cells sent out by the Red Cross for flashlights winking in British blackouts. Butadiene is another synthetic rubber. Isobutylene is a high-powered auto fuel. And if

these names are unfamiliar to you, you are just that far behind the common life and the new world which gas has been giving you for years.

Until the war began, there was no economic use of nitrogen from gas. Nitrohydroxy compounds are now being transformed by synthesis in Canada to make from natural gas high explosives for shells and cartridges to replace those lost in the Battle of France.

And for years the formation of oxides of nitrogen wasn't being investigated. Research of direct nitration of methane and ethane resulted by 1935 in successful nitrocompounds. When war began the reaction between nitromethane and formaldehyde has been found to form a base which could be acted on by nitric acid to form *nitrosobutyl glycerine trinitrate*, an explosive more stable than TNT, with much lower freezing point, now entering heavily into the continuing Battle of Britain.

There are more of the beautiful, unknown names from the never-never lands of chemistry. From toluene comes TNT itself, trinitrotoluene. Dunsany would like that one. Cellulose, thiokol, lumarit, polaroid are new world materials which have come into our ken and remained. Tetraethyl lead from gas is used in seven of each ten autos from here to the Rio Grande. Ether alcohol fuels the tanks of Panzer divisions. Methyl esters dope the wings of British airplanes. Formaldehyde originates in gas and is important in the ultimate worth of every photograph taken over Germany.

A Raw Material

For the cause of mercy there are anaesthetics from gas, chloroform, methylene chloride, ethyl chloride, diethyl ether.

War in this new world makes gas an essential material. Nitration of natural gas hydrocarbons means new chemical war industries for Alberta where natural gas is so plentiful. There are chloronitrate compounds to fight rust and bugs on farmers' acres. And fatty acids providing cellulose esters for plastics for planes. Hydroxylamine salts (ounds better than Adolf Hitler's Platz) are flotation reagents enabling our mining camps to set all time records this year for gold yields. Between 1936 and 1940 the use of gas as an industrial fuel has only slightly increased, while as a chemical raw material it has quadrupled.

When coal is burned in steelmaking, flue gases are formed. Anomalous is the position of these once wasted gases. Since war began the head-scratching about gas wastes is over. They have been researched to show important components for the attainment of striking results in the heat treatment of steels where special "weather," or high-temperature chemical atmosphere is created to harden tools and dies.

Raw materials in these unburned gases:

	Coke Oven	Refinery	Wet carbon	Gas	Gas	Natural Gas
Methane	29.6	41.6	87.0			
Ethane	1.0	19.2	4.7			
Propane	0.1	17.0	2.6			
Hydrogen	56.7	1.4				

Women accustomed to cook's language about gas—the four layer cake baked without preheating, and coffee made over the stove top in six minutes

are learning the above percentages these days, forgetting about peeking and poking at cakes, and taking war gases as laboratory assistants probing gases.

Flue gases at 40 pounds pressure are piped to inflate rubber bags, replacing steam in the curing of army auto tires.

Cities coping with "hard" water having too much lime are burning gas underwater to remove calcium carbonate by converting it to calcium bicarbonate.

No End in Sight

Vancouver has an original disposition of flue gases begun by a woman. They are burned under boilers and the products of burning passed through the ocean to precipitate magnesium compounds for war production.

There is no end in sight for the ingenious uses of gases.

Sometimes these advances are worked out scientifically, but natural gas is such a plentiful storehouse of materials that most of them are discovered by accident and taken their places in the new world spontaneously. A Hamilton plant producing lithographed tin cans found that some quirk in gas chemistry made its light colors come up brightly and changed over its oil furnaces to gas. Inert flue gases are used in Toronto to cook varnish for plants working on torpedo boat orders.

The cracking of "saturated" gases to form unsaturated compounds which can then be converted into other chemicals in the war work is a common process.

Cracked gases are used in heat treating the high carbon steels we send to our airmen and sailors. Cracked liquid ammonia produces stainless steel for doctors' scalpels and dentists' probes.

In the new world carbon and hydrogen in gas are reducing agents, chemically speaking. In theory these gases should be able to reduce iron, copper, and lead from their respective ores when we badly need them. There are vast deposits of low grade ores which

just that much more prepared. Plastics from phenols and carbolic acid, synthetic fibres, wonder working sulfanilamide, rayon, quick-drying paints, retort carbon used for dynamos and electric motors,—these are the simple results of blue flame's participation in the Chemical Era.

In each of them some part of gas has been employed as raw material and caused the simple product to blossom into a beneficial industry.

From laboratories employing a thousand gross of high temperature Bunser and Tirlill burners the next stirrings of a whole new world at war are coming.

Precise, controlled temperatures; "heavy" chemicals as sulphuric acid and hypochlorite of soda; handy chemicals as innumerable plasticizers of unnamable things; these from gas are used in churches, taverns, pass across the women's wear counters, run automobiles, avert cold, change the color of your face or floor, treat your shoes, food. The principle of fact, of rigid inquiry as to what is and what is not, sustains science to make possible the continued search for truth in an old world where the wells of information are poisoned by censorship and propaganda.

Through it all the blue flame continues to burn. Economy, low service cost, and cleanliness have been advanced by gas along a wide sector of our daily lives.

YOU'LL WANT IT
THE MINUTE
YOU SEE IT....

McCLARY
Designs
A NEW GAS RANGE
WITH A

6
BURNER
COOKING TOP
CAPACITY

1 The removable Gridle Plate, operating from the broilerburner, adds a grilling or frying area twice the size of your largest frying pan.

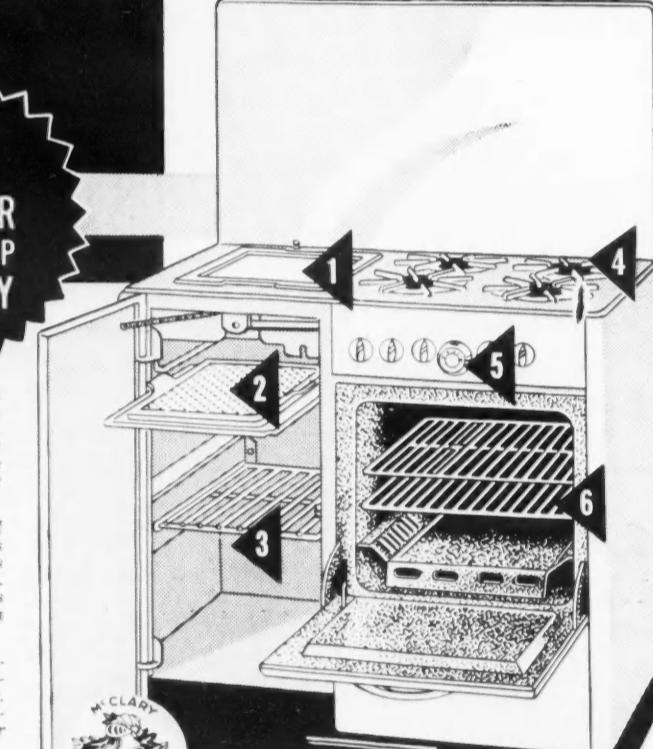
2 A big broiler—and no stooping! It's waist-high, and pulls out with a smooth, easy action. It is equipped with a smokeless grid.

3 A large storage compartment with convenient wire shelves. Serves as a convenient receptacle for utensils.

4 Cooking-top equipped with the famous "Red-Hed" burners—one, a Giant "Red-Hed" for exceptionally fast cooking. They all hold the lowest summer heat accurately.

5 Cooking-top burners have always been considered the fastest, and most easily controlled oven of them all. A definite fuel saver, it is an easy-to-clean oven as well. Porcelain enameled lined throughout, it is equipped with rigid pull-out oven racks.

6 The McClary oven has always been considered the fastest, and most easily controlled oven of them all. A definite fuel saver, it is an easy-to-clean oven as well. Porcelain enameled lined throughout, it is equipped with rigid pull-out oven racks.



• This unique McClary Gas Range packs more convenience and utility into 36 inches of kitchen floor space than any range you've ever seen. That's why, when a woman sees it she wants it!

When not in use, your range serves as a smooth, porcelain-enamel topped working surface. Lift that coverall top and you have a cooking-top that will accommodate five or more cooking operations at the same time. It has a SIX BURNER capacity. None of the cooking top is waste space!

We can only highlight the more important features of this new McClary in this advertisement. You must see it—at your nearest McClary dealer's—to appreciate its lustrous beauty, its many refinements.

A Product of
GENERAL STEEL WARES
LIMITED

McCLARY
GAS RANGE



THREE GUESSES
NO-NO-YES



"There's the solution
—I'll heat my home
with GAS."

Get an estimate of the cost
—no obligation.
Heat your home with gas.

**THE CONSUMERS' GAS
COMPANY**

Visit the Exhibit of
Gas Home-Heating
19 TORONTO STREET
TORONTO



WITH A RANGE LIKE
THAT, COOKING WILL
BE A PLEASURE
AND IT'S A
CLARE JEWEL
TOO!



It's a
BEAUTY

The new Clare
Jewel Model CP-
11300 deluxe
is last word in
modern gas range
and one of the
newest CLARE
models.

CLARE BROS.
& CO. LIMITED
PRESTON, ONT.

J

HE convenience, speed and dependability of the new CLARE JEWEL Gas Ranges are making more new friends every day for the name that Canadian women have known and trusted for over 85 years. See the smart new models at your dealer's or gas company's showrooms.

CLARE JEWEL
Gas RANGE

How Gas Makes the Desert Bloom

ENGLAND uses "gas boggies" because of the war. Across the terrestrial span in California, more than 17,700 acres of desert bloom with large permanent mechanized farms made possible because of the presence of natural gas as an engine fuel.

This spread between motor travel and irrigation is typical of the distance gas has covered in the last two years. Necessity and continuous research are the continuous factors in its progress.

Forty years ago in the valley of the Pecos River, made famous by the roarin', shootin' Pecos Kid, artesian water vital to Southern California farming was discovered.

Artesia, New Mexico, a whole town, grew out of the settlements formed as gas made the desert bloom and turned wasteland into prosperous farms. Thriving centres of life sprang up in the valley, orchards were planted, and year after year more of the wasteland was drilled and put into cultivation.

Over a period of years many of the artesian wells began to lose their pressure. The water diminished and gradually the man-made green of the valley began to parch, dry up, and return to the desert brown of its natural state.

In 1929 the Pecos Valley Gas Company laid 41 miles of eight inch natural gas pipeline from gas fields east of Artesia and brought them into the valley. About this time farmers had discovered that pumping plants run by old automobile engines taken from wrecked cars and converted to run on piped natural gas by means of adjusted carburetors could be operated for an unbelievably low sum per acre. The wells flowed in the winter, but not in the summer. By using natural gas to operate pumping engines, an unprofitable farm which was drying up from lack of water could be irrigated very easily and desert transformed into large profitable acreage.

Cheap Operation

One Waukesha gas engine, 95 h.p., used to lift water 115 feet delivers it at the rate of 15,000 gallons a minute. The rainfall average in these parts is 14 inches. For the past two years it has averaged 9 to 11 inches, and the difference between these amounts and the 24 inches necessary for successful farming has been made up by gas-powered pumps. During 1939 this one plant irrigated 115 acres of cotton, 55 of small grains, and 110 of alfalfa for a total 8 months' gas bill of \$777.58. The cost per acre is \$4 for alfalfa and \$2 for small grains. If water can be had at a depth of about 20 feet, these costs are cut in half. Total acreage under cultivation in this area is 17,730 acres. Alfalfa and cotton crops are equally numerous here.

Gas companies in the area declared a gas engine rate of 100,000 cubic feet for 40c.

Immediately customers began to come forward among the farmers. On sixty miles of line 150 consumers were soon pumping with centrifugal turbines operated by two Dodge, two Chevrolet, nine Buick engines running on natural gas. Due to the low first cost 21 Model B Ford engines and 42 V-8 engines are also operating, together with two Lincoln Zephyrs. In the combined 9,500 h.p. there are also five Twin Cities, nine International, seven Hercules, seventeen

Allis Chalmers, and 25 Waukesha engines. Most are equipped with valve oilers and natural gas carburetors, and many with oil baths on both the air and gas supply as well as oil filters. And most are automatic, entirely so, with cut-offs for low oil pressure, overheating, belt breakage, slippage, etc. The internal cooling system using water pumped from the wells was replaced after a short trial by water coils located so that the water pumped from the well cooled them.

At present 120,000,000 cu. ft. are being consumed in this district, in the off-peak summer months from April to October. A total of 40,000 h.p. is gas-powered throughout southern California. The uses of engines are spreading to cotton gins, and production of electric power. In Carlsbad, New Mexico, for instance, a 2,000 h.p. natural gas engine was installed at the power plant. There are about 10,782 directly connected meters used by the customers for engine gas in this state.

Efficient Gas

An Ontario gas user, Kolbe Fish Co., of Port Dover, operated two 100 h.p. Packard engines on natural gas, to make ice for the district and to store its fish catch. This company was using electricity, but drilled its own wells on its property, piped gas to the engines, merely adjusted carburetion, and has been using natural gas power ever since.

Where gas utilities have thousands of customers, they service the engines in their district free of charge. Alberta, for instance, has irrigation problems matching those of California, and has much natural gas produced as the by-product of oil drilling. Free service constitutes anything that can be done in the field by the company from minor adjusting to complete overhauling, with the customer paying for the parts and any work that can't be done in the field, such as the reboring of cylinders, regrinding of pistons. The approximate cost of this free service is 2½c. per thousand cubic feet of gas.

The California service plan operates engines from 5 to 400 h.p., and averages engines 80 h.p. in size. Service engineers making from \$200 to \$225 a month each take care of from 6,000 to 10,000 h.p. on regular district routes.

For engines powered by natural gas over a period of 20 years, the total maintenance cost has averaged:

Per hp Per Mcf

Service cost to gas utility	\$0.59	\$0.025
Parts cost to consumer	0.30	0.012
	0.89	0.037

Latest vertical multi-cylinder engines cut these costs in two.

Time spent on engine service has been worked out for natural gas power over the space of years as:

General overhaul	\$55.58
General inspection	13.97
Valves	6.17
Bearings	5.97
Ignition	4.09
Cooling water system	3.88
Gaskets	1.78
Lubrication system	1.52
Power take-off	1.18
Timing gears	1.05
Rings	0.63

Gas's Growing Generation

BOYS and girls now entering school will swell the ranks of wartime graduates who have already been pouring into the intricate affairs of wartime on the home front at the rate of 200 a week in Ontario.

War industries alone have requested the training of 1,475 young boys and girls whom they will need shortly.

Young men and women are itching to leave university Bunsen burners, apply what they have learned, and be useful as the war over Britain increases.

And well they may be restless! After years of shattering unemployment, the flood is on. Industry is drafting architects, mechanics, electricians, painters, engineers, metallurgists, draughtsmen, designers and chemists are needed. The army wants doctors, dentists, carpenters, builders. Girls are studying gas temperatures and fuel composition to make munitions, are nursing, filing, farming, cooking and canning, inspecting and testing war materials.

Boom in the use of gas across this Dominion has come about through the education of these youngsters. Gas is the fastest fuel with which they are familiar. In high schools, technical and vocational classes, girls have learned to cook with gas, have served in the teachers' lunchrooms, learned the gas refrigeration of foods and blood banks. Boys—and girls—training in machine shop practice, use gas extensively for heating and for the treatment of steels. The case-hardening process, cyanide process, and pack-hardening process of case-hardening all employ gas. Minerals are assayed with it.

Gas is such an all enveloping subject when it comes to everyday use that this democracy impresses the use of it on its youngsters over a period of 13 years, from the time they enter kindergarten until they're able to navigate at 17. It is a statement of



GAS ON THE JOB—A member of the Women's Auxiliary of the Royal Regiment preparing soup on a gas range at Exhibition Park, Toronto. Notice the Ruud Monel automatic water heater in the background.

bold fact that no single person knows everything gas can do. Mr. Chantler, teacher at Toronto's Danforth Technical School, has a collection of 500 by-products of the gas industry. In England they know some 2,000.

The largest English-speaking Board of Education in Canada uses gas in 143 public schools and 34 high schools. As well it is used in 39 separate schools. Mains of the Consumers' Gas Co., of Toronto, extend about the city west from Port Credit to Scarborough Collegiate in the east, and from Centre Island across Toronto Bay and north through the city to Steele's Corners.

The thousands of boys and girls who use gas in its many new forms know more about it than their parents do because they were brought up with it. They have it fresh in their heads from a new sort of education.

Twenty-four hours a day—lots and lots of hot water for you and your family to enjoy! That's true comfort. And, this hot water can be yours, if you are a gas user, for as little as \$2.20 a month*. That's real economy.

Your gas company's special plan—the Combination Rate—gives you a HOT-TOP automatic gas water heater and the gas to serve it, both for a small fixed monthly amount.

You'll have no water heating problem when you heat water the HOT-TOP way for HOT-TOP is

*The \$2.20 service will not suit every home. Let us advise you about the correct Combination Rate heater so that you know in advance what the monthly charge will be for your hot water requirements.

TELEPHONE ADEL. 9221
19 TORONTO STREET
2352 YONGE STREET
732 DANFORTH AVENUE



Gas enlists for Service

All over Ontario, men and women are shaping their activities towards war-time service. In industry, men are bending every effort to speed up needed supplies and munitions of war. In the home, women are practising economies, conserving food, seeking to do their job with heightened efficiency.

Both in industry and in the home, over a large part of Ontario, men and women are being aided in this war-time service by a powerful ally—GAS.

Serving 95,000 Consumers

In South-Western Ontario, some 60,000 domestic consumers and many important industries are receiving natural gas through the pipe lines of the Union Gas Company of Canada and its wholly owned subsidiary companies, Windsor Gas Co., and City Gas Company of London. Another 35,000 receive natural or manufactured gas through its associated companies.

400 Natural Gas Wells

Union Gas Company maintains and operates more than 400 natural gas wells in South-Western Ontario, is constantly exploring for new sources, and is unrelenting in its policy of conservation and the building up of reserves. Thus an uninterrupted continuity of service is provided for gas users in the richest and most populous district of Canada.

Hermetically Sealed Pipes

Through 2,000 miles of pipe line, varying from 3" to 16" in diameter, hermetically sealed and under constant inspection, the gas is distributed across country and into homes and factories. In the course of 35 years, Union Gas Company, taking over companies which had been supplying manufactured gas for more than 100 years, has gradually developed and extended the supply of natural gas as well.

Gas in Peace and War

Constant improvement of the mechanical facilities which make gas available for heat and power have multiplied its uses. It stands today as the most economical, efficient and convenient of fuels. As in peace time, so now in war time, gas is performing and will continue to perform an important national service.

UNION GAS COMPANY OF CANADA, LIMITED

CHATHAM, GAS

Subsidiary Companies

Windsor Gas Co. Limited, Windsor
City Gas Company of London, London

Associated Companies

United Gas and Fuel Co. of Hamilton, Limited
The United Suburban Gas Co. Limited
The Wentworth Gas Co., Limited, Hamilton, Ont.

Gentlemen:—
I built a new home in Forest Hill Village this Summer and Autumn, and moved into it a few weeks ago. I wanted to be sure of an adequate supply of hot water at all times and, after investigation, chose a "Hot-Top".

I'm delighted with the service. There are four of us in the family, and a maid, and we find that we have plenty of hot water—real hot water—for every need. The new combination monthly rate which provides both the "Hot-Top" and the gas we use is, in my judgment, most reasonable.

Yours sincerely,
(Name on request)

ONE OF THE MANY LETTERS FROM SATISFIED HOT-TOP USERS . . .

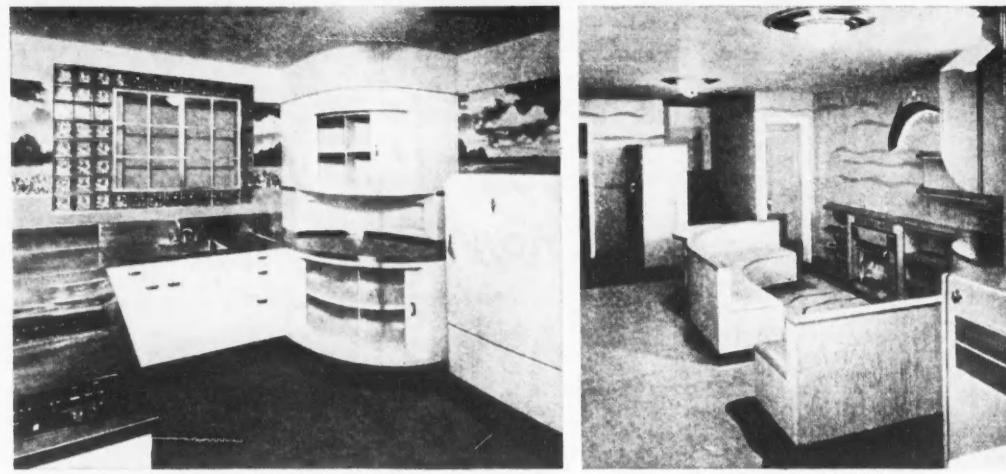
The new COMBINATION RATE, for Gas Users, \$2.20 a month (exclusive of war sales tax) gives you the Ruud HOT-TOP and the Gas to serve it. Now you can have the hot water you need around the house day and night—for a fixed small monthly sum. HOT-TOP delivers clear, rust-free water because its Monel tank simply can't rust—guaranteed for 20 years.

The \$2.20 service will not cost every home. Let us advise you about the correct Combination Rate before you know in advance what the monthly charge will be for your hot water requirements.

New HOT-TOP WITH THE COMBINATION RATE AS LITTLE AS \$2.20 MONTHLY

THE CONSUMERS' GAS COMPANY

19 Toronto Street, Adelaide
732 Danforth Ave.
2532 Yonge Street.



MODERN HOME Kitchen with gas range and refrigerator, left; cellar (right) has gas heat, air conditioning, laundry dryer.

Woman Bites Budget

MARRIAGE is love on a cost-
accounting basis.

Men object that women don't get down to cases. Don't take the pencil and paper and figure it out. All of it. So okay, as this continent's titans of literature (1940) write it.

So okay, so we settle the figures once and for all.

Armed with these you'll know how to answer him.

As the babe who, four years ago, made sheep's eyes of giant size, acquired a husband and those two flaxen-haired children in the garden, your basic figure is four tons of food per family per year. Costing \$460.

Large or small, thin or fat, whether it's carrots, fish, asparagus, chops, lamb, tomatoes, or steak, an adult eats a ton and a quarter.

Most of it is either meats, fruits or vegetables. You know about the mineral content of raw vegetables, and about food being the medicine of the future, if the diet is right. And

if properly cooked. Most things aren't.

Your family eats ten pounds of fruit and vegetables a day when it is being fed as it should be. Tons of food can be wasted by improper cooking, most of which isn't your fault but the fault of your stove.

Any stove over four years old isn't likely to be properly insulated for one thing.

Low temperature cooking is your main source of saving when cooking fruits and vegetables. Get the pencil; here's a figure for him. The simmer burner on the top of the range, working on that 70 pounds of fruit and vegetables per week, saves 15%. The saving, at 7c. per pound for vegetables, is about 53c. each week. Which means \$27.60 a year.

Unscientific ovens cause a leak in your market basket by wasting heat. Thousands of Canadian women are using old stoves which heat more of

the kitchen than they do of the meal. Every square inch of a gas range is tested these days to prevent that. The range is encircled by a battery of thermometers which determine the temperature of walls, floor, and air and prove that the insulation is keeping heat in the oven and out of the air.

Unscientific ovens cause meat shrinkage. High temperature cooking is responsible. By using low temperature roasting meat is saved; and if low-priced cuts of meat are used it is possible to produce a meal as savoury and healthful, yet save even more in fuel costs than the next figure in savings we give right here:

Two 14-pound roasts of meat, identical cuts, boned and tied, were roasted by the Department of Home Economics of Ohio State University. One, cooked at 500°, lost 6 1/4 pounds in shrinkage. The other, cooked at 230°, lost 1 1/4 pounds. A net loss of 4 1/4 pounds due to improper cooking, or a third of the meat. Now your family's average consumption of 10 pounds of meat and fish a week, taking meat at 35c. a pound, costs \$3.50. At least half of it is cooked in the oven. A good oven like the one in the new gas ranges saves 30% of this \$1.75, or about 58c. a week. Which means a saving of \$30.16 a year.

Your minimum food saving on both meats and vegetables, by using a good gas oven, is close to \$57.72 a year, or 16c. a day. There you are—his figure for food. Make him happy.

The thing a woman never can compute is the cost of labor around her kitchen. During the past four years gas ranges have installed automatic lighting on top burners, broiler and oven; a large burner that is a third faster; more efficient burners which eliminate the waste of time formerly taken by the cleaning and scouring of pots and pans. The oven broiler is twice the area it was. And the oven preheats from eight to twelve minutes faster. Saving twenty minutes a day on two meals, a new range saves 120 hours a year in the kitchen, or \$3 a month if your time is worth 30c. an hour.

Savings thus far amount to \$93.72. The actual amount of money your kitchen wastes in time and food, if you have a range over four years old!

And Convenience!

And your foods are not over-fried. "Prolonged frying kills delicate vitamins," Dr. Victor Heiser wrote this year. The author of "An American Doctor's Odyssey" has travelled the world in the cause of medicine.

Especially during the past six years have stoves using gas been changed by research. Burners light automatically, and a regulator and filter has been provided that ensures against fluctuations in pressure which used to play hob with automatic lighting. The smoke pipe has been removed. In the larger oven no carbon monoxide can be formed from partially burned gases. Among the 550 range tests of the Canadian Gas Association are asbestos "chops" (thermocouples) to record the speed at which broiler compartments heat up . . . manufactured winds aimed directly at top pilot lights . . . a mechanical nose that's keener than the human sense of smell when it comes to detecting burning . . . solitary confinement for hours in an airtight steel chamber with detective apparatus outside . . . a curious, delicate instrument sleuthing the heat units generated to detect any which escape.

Range doors get a slam-bang test. The chassis takes a squeeze test with a 300 pound weight on top, and a 100 pound weight on the open oven door. Automatic temperature control means that the amount of heat provided over a set time must be measured to a fraction of one per cent, if your cooking is to come out right.

One woman who has been using gas for thirty years, and who had an understanding husband, had her new range delivered two days before last Christmas. Using temperature control for the first time, she baked ten fruit cakes for Christmas, five at a time, and did her Christmas shopping on the afternoons of the same two days.

Now that you've finally gotten the figures for him, here's one for you:

Three-quarters of all the work you do as a housewife lies in cooking food, washing dishes and clothes, and keeping the house clean and warm. Without automatic control of heat, there isn't a moment to yourself.

EATON'S presents A NEW GAS RANGE THAT'S COMPLETELY MODERN— FROM TOP TO BOTTOM!



No. 460

Acme RANGE

★ BEAUTY! ★ UTILITY! ★ ECONOMY! ★ VALUE!

Here is the range that is designed for modern housekeeping! It combines the utmost in economy and efficiency with beauty, convenience and a host of special features! Designed and built to a high standard of excellence, it is an outstanding EATON value in the moderate price field. We invite comparison with any other similarly priced range on the market!

FEATURES:

- New Harper Burners . . . speedy—economical—anti-clog design A. G. A. approved.
- Hi-lo gas valves which give usual range from high to low, plus controlled simmer flame.
- Closed top burners.
- Porcelain enamel oven linings plus heavy insulation of non-inflammable mineral wool.
- Ground cast-iron oven bottoms for even heat distribution.
- Automatic Flash lighter.
- New type drawer broiler with ball-bearing rollers.
- Oven heat control.
- Minute minder.

Oven Space 16" x 20" x 13 1/2".
Floor Space Required 38 1/2" x 29 1/2".

EATON CASH PRICE \$94.50

THIS RANGE MAY BE PURCHASED ON EATON'S BUDGET PLAN TERMS IF DESIRED.

EATON'S—Main Store—Basement
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10 MORROW AVE., TORONTO

Suppliers of

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English-Type Radiant Gas Fires
Water Heaters - Ranges
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Sundry Gas Appliances

Monel, Lifetime Servant

MODERN engineering together with new fabrication techniques in modern materials are two of the main reasons for the astonishing developments in industry during the last decade. Certain achievements are very noticeable to the public, particularly the new streamlined trains built throughout with nickel alloy metals—the efficient and durable modern motor car—the swift and reliable new aircraft. In domestic appliances many products are going through this same evolution.

One of the many domestic products which have undergone remarkable improvement is the Automatic Storage Water Heater. This improvement, though long overdue, today enables the public in Canada and the United States to enjoy the advantages and conveniences of a reliable supply of clean hot water.

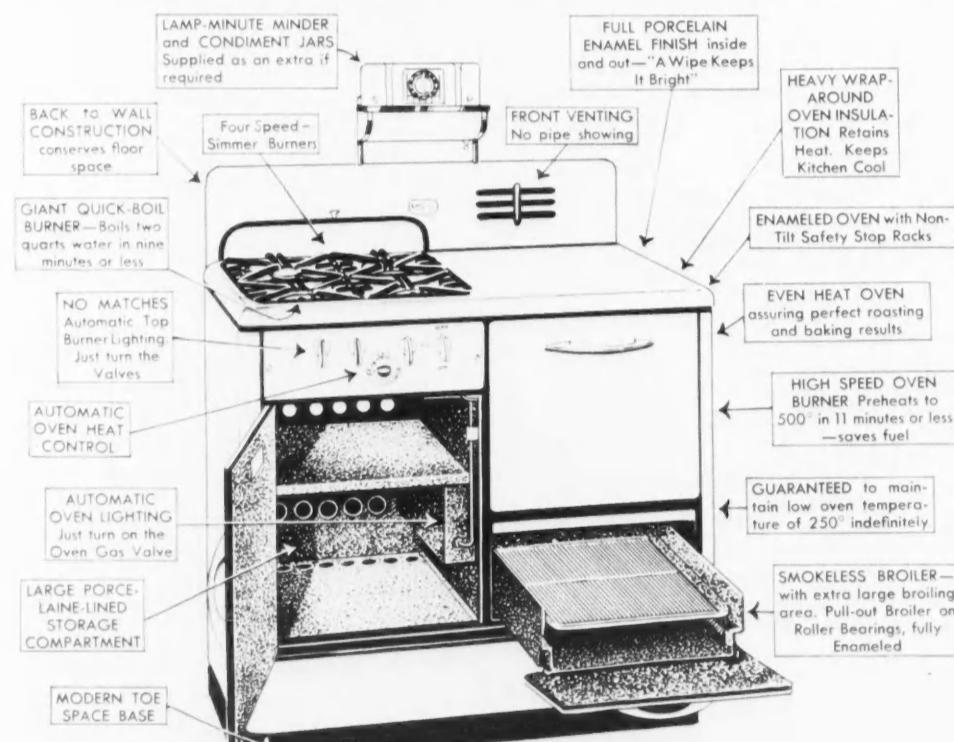
The engineering of a new type of hot water tank made from a strong, absolutely rust-proof metal has brought this about.

As illustrated on another page of this section, the main answer to this problem was solved with Monel tanks—rust-proof, corrosion-proof—built to last a lifetime.

SAVE TIME...FOOD...FUEL! CHOOSE THE NEW

Gurney

KITCHEN TESTED GAS RANGE



GURNEY 44 G43 CP. GAS RANGE

NOT JUST 2 OR 3 SPECIAL FEATURES —but all the most advanced improvements combined in CANADA'S MOST DESIRABLE GAS RANGE

A gas range really has to be good to win the coveted CP (Certified Performance) Seal of the A.G.A.E.M. Yet this new Gurney passed with ease all of the 22 rigid tests imposed.

A modern marvel of beauty and efficiency, convenience, and economy . . . product of 98 years of experience in stove building . . . it is a joy to cook with and a delight to own.

Check the outstanding features illustrated above . . . but be sure also to see for yourself this gas range that "has everything".

GURNEY FOUNDRY COMPANY LIMITED—Toronto, Montreal, Winnipeg, Vancouver

THE NEW

SATURDAY NIGHT

PEOPLE

TRAVEL

FASHION

HOMES

THE ARTS

TORONTO, CANADA, AUGUST 31, 1940

Canada's First Experiment in Monumental Road Making

BY LUCY VAN GOGH

THAT portion of the Queen Elizabeth Way which extends between Toronto and Hamilton, and which was dedicated by Her Majesty herself during her visit to Canada last year, will probably never wholly lose its popular title of the Middle Road; for most of it was an old road before it became a Queen's Way, and it is the middle one of three roads between the two neighboring cities. But the

portion which has just been completed and was last week rather quietly thrown open to the public, and which links Hamilton with the network of paved roads in the vicinity of the Niagara frontier, will never be anything but the Queen Elizabeth Way. It runs where no road ever ran before, and while its course is actually a middle one between the ancient road along the shore of the lake and the equally ancient and very winding one through Grimsby, it is many generations since the shore road was pounded to pieces by the surf and ceased to carry traffic except for short isolated sections

UPPER LEFT. In "Navy Hall," Niagara-on-the-Lake, were originally stored the spars and equipment of the British Navy for the fighting ships on the Great Lakes. The first Government of Upper Canada met within its walls. The original timber walls have been surrounded with stone in order to preserve them for all time; the interior is much as it was in 1812. LOWER LEFT. Ancient gun and gun platform, and one of the reconstructed log houses, fitted up in the style of the Officers' Quarters of 1812, in Fort George, Niagara-on-the-Lake. RIGHT. The new Government Restaurant on Queenston Heights, with Brock's Monument to the left.

between two roads running inland towards the Mountain. Even more completely than the Middle Road, this new section of the Toronto-Niagara main road is a perfect speedway, free from anything to prevent the motorist from making whatever pace suits him and his car. Intersections are insignificant in number; there is a minimum of population on the north between the road and the lake, and the few roads crossing the Way will have very little traffic, except two which have been provided with viaducts. As there was no old right-of-way there are hardly any rights of entry to the Way from private property abutting on it, and new ones are not being created. The Way goes around and not through the city of St. Catharines, which, with a surprising recognition of the proper

UPPER LEFT. West of Henley is the Martindale Traffic Circle and Bridge, and the "Keep Off the Boulevard" signs are up already, although the grass was only seeded a few days ago. Note the width of the traffic lanes and the boulevard, the spacious allowance at the side, and the efficient drainage. UPPER RIGHT. It takes a big concrete mixer to fill these huge areas of road surface. LOWER LEFT. On the Queen Elizabeth Way — the only highway lighted on this generous scale and the only one whose government owns also the water-power which produces the lighting — a cloverleaf is quite a show at night. LOWER RIGHT. The Henley Bridge near St. Catharines carries the Queen Elizabeth Way over the scene of the annual regattas which are the chief feature of the Canadian sculling and canoeing year.

relationship between a centre of population and an express highway, has declared itself pleased with the arrangement.

Most of the Way is as straight as an arrow, and the few curves are of such enormous radius that they do not call for any slackening of speed.

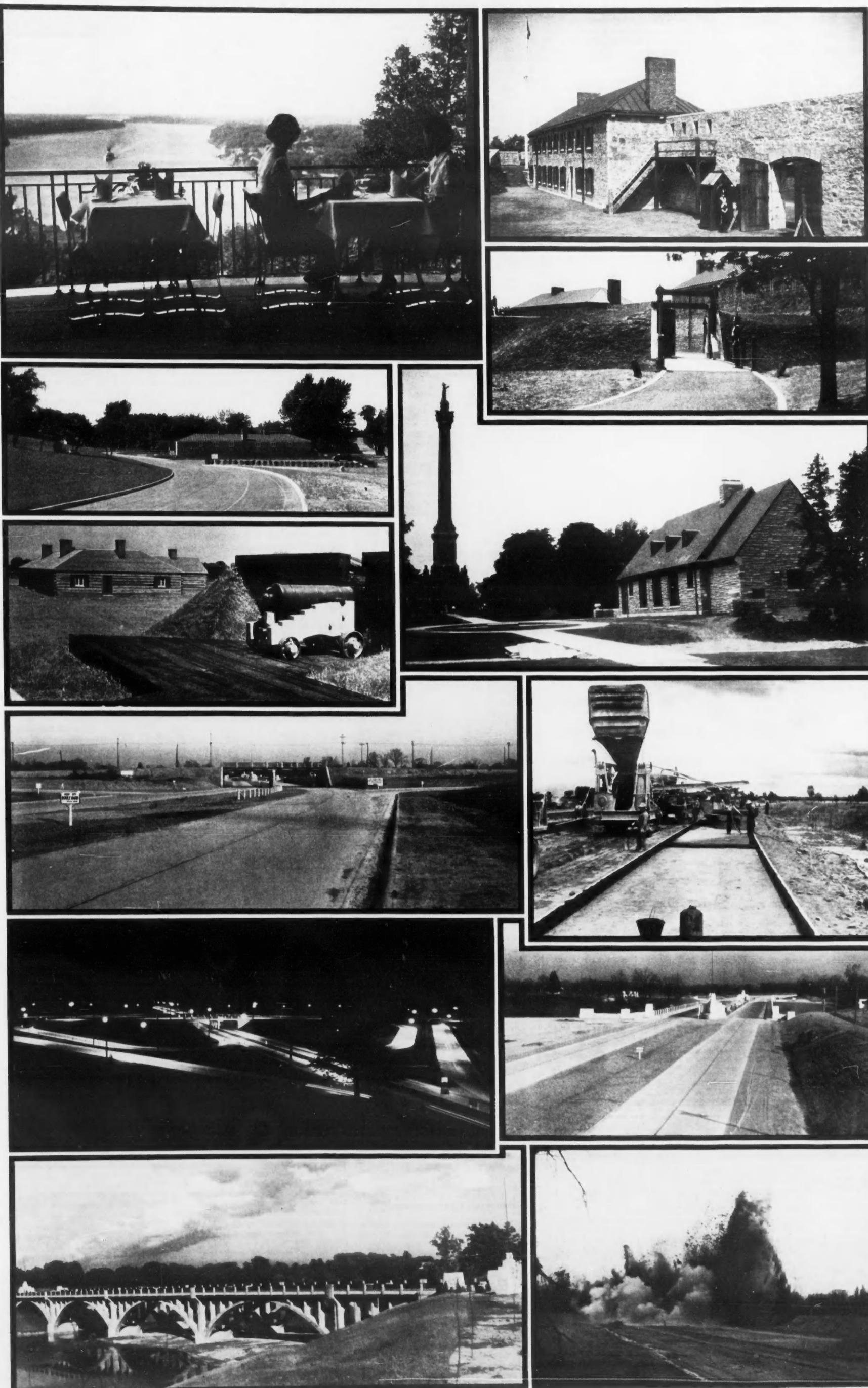
THERE are no perceptible grades. A boulevard, which is already being grased and treed and is in most places as wide as one of the traffic spaces, runs between the eastbound and westbound roadways. The outer borders will probably not be treed, as most of the territory traversed is fruitland, and it is thought wise not

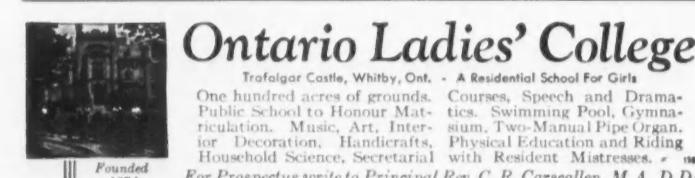
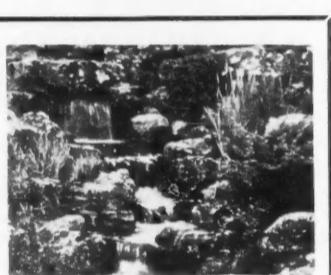
LEFT. The Henley Bridge is far from being a detriment to the lovely tree-embowered river reaches where the regattas are held. RIGHT. Even in the fairly flat Niagara Peninsula fruitlands, quite a bit of blasting was necessary to get the kind of grades that the Hon. T. B. McQuesten likes for his main highways. And he likes them to run straight, too.

to screen off the famous orchard blossoms from the view of the traveler.

The joining of this and the Middle Road on the north side of the lake

(Continued on Page 24)





MUSICAL EVENTS

First Hearing In Canada of Ravel Work

BY HECTOR CHARLESWORTH

LAST week at the Prom concert in Varsity Arena Reginald Stewart gave what is believed to be the first performance in Canada of an early work by Maurice Ravel; an Aubade or Waking Song entitled "Aborado del Gracioso". It was originally one of five tone-poems composed for the pianoforte in 1905 and grouped by Ravel under the title "Miroirs". Each was individually dedicated to members of a modernist group humorously calling themselves "Les Apaches" with which Ravel was at that time associated. When first performed in Paris by the composer's life-long friend, the Spanish pianist Ricardo Vines, the suite was violently hissed by listeners allergic to modernism. Of the five movements "Aborado del Gracioso" proved the most popular and in after years Ravel made the orchestral setting, played by Mr. Stewart. Times change in music as in everything else. Instead of hissing, a Toronto audience, not too sophisticated, applauded wildly. It is indeed colorful, rhythmical, and bewitching, Spanish in suggestion, and about as tricky a work as an orchestra could attempt. It was interpreted with verve, delicacy and clean-cut efficiency.

Conductor and musicians were admirable in Bach's Suite No. 2 in B minor, scored for strings and flutes. It has eight short movements based on ancient dance forms, and some of the harmonic devices are as neat as they are captivating. Mr. Stewart also gave an admirable and stimulating rendering of the least familiar section of Gounod's "Faust"—the brilliant and infectious ballet; and there were excellent interpretations of such old favorites as Weber's Overture to "Der Freischütz," and Bizet's "Suite L'Arlesienne."

The guest soloist was a well-known radio singer, Lucille Manners. Though familiar with her voice local listeners made first acquaintance with her lovely, girlish and magnetic personality. Though her fame has been made in front of the microphone few young singers reveal so much aplomb on the platform. Her voice is of charming lyric quality and satisfying substance. Her middle notes are so warm that she may develop into a dramatic soprano some day. One could not have asked for a more appealing rendering of the Gavotte from Massenet's "Manon". In a group of lyrics with Gwendolin Williams at the piano, she showed distinction and finesse, especially in Frank Black's "Doll's Lullaby". It was a tactical error to sing so grimly a number as Strickland's morbid "Home Coming" but she cheered everyone up with "There'll Always be an England". Evidently Miss Manners understands the art of showmanship.

High musical quality marks the series of programs which Goldman's Band is giving at the Canadian National Exhibition. By general consent Edwin Franko Goldman is the successor to John Philip Sousa as conductor of the foremost concert band in America. It is a musical instrument of orchestral scope; and he himself springs of a musical lineage.

In days gone by his uncles, Sam Franko and Naham Franko ranked among the foremost violinists of the United States and his mother Selma Franko was a fine musician. He is also by blood connected with Gustav and Victor Hollander, eminent European violinists and conductors of the last century.

Mr. Goldman first became famous as a cornet soloist, pupil of the famous virtuoso, Jules Levy, but it is not generally known that as a boy he was a pupil in composition of Antonin Dvorak. This was in the early nineties when the Bohemian composer was Principal of the National Conservatory of Music in New York. Small wonder then that having, so to speak, lived with music since babyhood, Goldman is today a musician to his finger tips. Though his hair is grey he is deceptively youthful in appearance. Few noting the briskness of his deportment realize that he is 62 years old, and that his public career goes back to 1895 when he first became cornet soloist at the Metropolitan Opera House, where Naham Franko was concert-master.

Beginning at Hamilton on Sept. 2nd, the brilliant pianist Rex Battle will be associated with the concerts of the rollicking singing comedienne, Gracie Fields, under the auspices of the Canadian Navy League. Mr.

has given several recitals in Montreal for war purposes and a few weeks ago played under Sir Ernest MacMillan at a concert of Les Concerts Symphoniques de Montreal.

The death in Italy at the age of 70 of the famous tenor Alessandro Bonci, recalls the famous rivalry between himself and Enrico Caruso, which was at its height in the operatic circles of America 30 years ago. There was in truth little basis for rivalry because they were singers of contrasted type; Bonci an exquisite lyric singer, and Caruso, three years his junior, a robust tenor of immense voltage. Bonci always possessed more finesse and excelled as an interpreter of precious types of song for which Caruso's voice was too heavy. Bonci fought shy of such roles as Manrico in "Il Trovatore" in which Caruso was peerless, but outshone his rival in such a role as Alfredo in "Traviata". Bonci was undoubtedly the finer artist, but Caruso, unapproachable in tonal dynamics, had the greater voice. Posterity has given the answer. Though he died 19 years ago we still talk of Caruso, whereas recollection of Bonci is revived only by his death.

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THE BOOKSHELF

CONDUCTED BY HAROLD F. SUTTON

Reflections of a Very Wise Mind

BY B. K. SANDWELL

MEMORY HOLD-THE-DOOR, an Autobiography by John Buchan. Musson. \$3.75.

IT IS entirely possible that through this book, which contains the most important reflections of a very wise mind upon the most vital personalities and questions of the age, Lord Tweedsmuir will exercise an even greater influence upon the world now than he is dead than he did while he was alive. I propose in this article merely to set down briefly a few of the revaluations which I think likely to be started as a result of his thinking.

First of all, for the pages which I am most anxious to see widely read in Canada. Those on the labor politicians in the House of Commons head the list. True, they are British labor politicians, for the book does not come down to the period at Ottawa; but the observations will be just as valid for Canada when the Labor men who are beginning to get into the House of Commons have had the same length of experience. For the "Labor intellectuals" Buchan had little love—"dreadfully dogmatic" he calls them, and without points of contact with the trade union men. But listen to him on the English union men: "They might be clumsy in handling dogmas, but all their lives they had been in contact with realities, and each of them was a master of a special knowledge. They were the most genuinely English thing in public life, with all the English foibles and virtues." Their Scottish labor colleagues were "more speculative and impulsive, better educated and better read. All of them were my friends, but especially the Glasgow contingent" — including James Maxton. I am sorry Lord Tweedsmuir did not live to see Clarie Gillis in the Canadian Commons and C. H. Millard leading an Ontario party. The book contains also what I think will probably be the beginning of a radical revision of public opinion about Ramsay MacDonald: "The man was principally a poet—a poet who, like Cecil Rhodes, had not the gift of song. When his days of struggle were over and he found himself in a high place, he did not quite know what to do with his power."

There is a new theory, interesting here as well as in Britain, about the "lost generation." Many able young men died in the war, it is true, but many survived, and of these a great number felt that they had done their share of public service when fighting.

The Small Puddle

BY J. V. McAREE

COUNTRY EDITOR, by Henry Beetle Hough. McClelland & Stewart. \$3.25.

THIS is the story of a young man and his wife, educated in the city, graduates of the Columbia School of Journalism, who spent twenty years on a country paper and made a success of their lives. Apparently they lived without much excitement, except that provided by getting their paper to press and distributing it. One of the merits of the book, in fact, is that it does not represent the life of a country editor as thrilling. Apparently the young people were not crusaders. They were not burning to convey new ideas to their readers. Their supreme ambition was to build up a good country newspaper which would be worthy of the Massachusetts community that supported it, and for which evidently they have great respect. After 20 years' work they found that the circulation of the paper had increased from a few hundreds to 2,700 and that it was providing them with a comfortable, dignified living, in exchange for their unremitting attention. We could have given a better opinion of the Vineyard Gazette if

some of the family make to put an end to the slave trade, on which the fortunes of most of the big shipping houses of Liverpool in the eighteenth century rested. Few of them, however, do anything but talk about it or write pamphlets, or attend meetings. Incidental to the story are the seven years' war, the American revolution, the war of 1812, and, of course, the French revolution and the Napoleonic wars. Even in five hundred pages, however, these upheavals are treated rather in the fashion of condensed paragraphs from the standard histories, interpolated into the novel to serve as milestones in the progress of the tribes of Sherrards and Vines. Dr. Johnson, Wesley, Wilberforce, Cowper, Sheridan, Burke, Mrs. Montagu, Coleridge, Shelley, Byron, Pitt, Fox are all used much in the same way. In other words, the book is neither a right history of the times nor a family chronicle pure and simple. Still less is it a novel dealing with the fortunes of a few individuals in which the reader is made to feel keenly interested. There is much good writing in it, much painstaking research, some admirable character-drawing in miniature, but the saplings have crowded out the

Unhappy Families

BY W. S. MILNE

THE UNQUIET FIELD, by Beatrice Kean Seymour. Macmillan. \$2.75.

THIS is another family chronicle. It traces the fortunes of the Sherrards and the Vines, two families in partnership in the Liverpool shipping trade, including slaving. The period covered is from 1720 to 1841, and five or six generations of Sherrards and Vines are paraded before us. One of the children in 1818 says: "I think our family is a *dreadful* muddle. I shouldn't think anybody ever had as many cousins," a sentiment in which I am sure every reader who has succeeded in struggling as far as that with them would concur. Just as soon as one begins to become interested in one particular character, and learns to differentiate him from the rest of the Sherrards, Vines and collaterals, he disappears from the story, and one learns whether he died or ran away or what not only by the casual conversation of the next generation. Lavinia, a splendid character, the glimpses of whom are all too brief, manages to live to ninety-five, but even she does not succeed in giving the story that dominant figure which it needs to hold it together.

The main theme is the attempt



THIS IS THE BABY PORCUPINE which is a feature attraction in the Children's Zoo at the C.N.E.

and were entitled to return to their own affairs. Buchan went through this stage himself, but recovered from it by 1926. It was closely associated with the desire for country life which seized so many of the ex-fighters at the close of the war. It has to be added, and Buchan makes this point also, that for the middle-class young men their private affairs—the making of a decent living and the founding of a family—were, on the average, much more puzzling and absorbing in the 'twenties than ever before. "The ordinary man was struggling with private problems so difficult that he had not time for public affairs." (That condition of course did not reach North America until 1929.)

Buchan's father was afraid of nothing so much as finding himself in a majority. The same fear must have been why Buchan, entering politics in 1911, became a Tory; for he admits that nine-tenths of his views were Liberal. But in Scotland victorious Liberalism had degenerated into complacency, and its slogans into a tribal incantation, and "a youth in Scotland who called himself a Tory was almost certain to be thinking about politics, and not merely cherishing a family loyalty." The Liberals, he felt, had lost touch with the new realities of the new era. If their subsequent fate is any criterion he was profoundly right.

The book is of course beautifully written, with that poetic feeling for unusual word-values in which the Scot often shines. How perfect, for instance, is "shagginess" for the characteristic of North American landscape which first impresses the European! It is not undignified because it is natural, like a rough-haired dog. And I greatly like "imperception," for the state of mind of politicians who do not realize the nature of the world with which they deal; there is much imperception in Canada.

Produced in this country, the book is physically admirable in all but one respect; —impeccable proof-reading seems to be a luxury which this country cannot afford. On page 124 we should certainly read: "Today the word (Empire) is sadly tarnished," not "the world," which is meaningless in the context. On page 254 Alastair, John Buchan's younger brother, is described as not cherishing his interests which were wider than those of the older brothers, "without intensity," which should be "with our intensity."

ZOO CONTEST

HAVE you taken your animal photographs at the Children's Zoo at the Canadian National Exhibition yet? SATURDAY NIGHT is offering two prizes, of \$15 and \$10 respectively, and other prizes, some twenty in all, are being offered by various business houses, for the best photographs taken in the Children's Zoo during the recent Exhibition.

Entry coupons and rules can be obtained at the Zoo, and were published in last week's issue. There will be prizes in each of two classes, the Snapshot class, for prints not exceeding four inches in one measurement and six inches in the other, and the Salon class for prints over those dimensions. Prints must reach SATURDAY NIGHT'S office by 5 p.m. on September 17.

decision. The interplay of character on character is subtly and fascinatingly depicted, and the writing is informed with sureness throughout. There is a blessed reticence, which is a quality to be thankful for in modern novels, and a sense of style. Most noteworthy is the feeling of peace the author has succeeded in conveying to the reader. Although the actual plot is slight, it is so developed that the interest mounts to the climax, which is a satisfying one. The description of Valerie's dancing at the Charity Ball is so right that it leaves one breathless. I cannot remember ever reading a better description of a dancer, or even one as good. The incidental glimpses of the life of a dancer and the occasional critical commentary on the difference between ballet and "modern" dancing are fascinating and illuminating. One feels that Miss Creed could have given us much more of this had not her artistry kept it properly subordinate to the

A reviewer has to read so many bad novels that one which is a little better than the usual run makes him inclined to pile on praise unduly. Nevertheless, I think I'll take a chance on this one, and say that "Intrude No More" is one of the best novels I have read for some time, sincere and beautiful and fascinating. I take pleasure in recommending it.

Nazi Strain

BY B. K. SANDWELL

INTO THE DARKNESS, by Lothrop Stoddard. Collins. \$3.50.

THIS is the most authentic account yet available of conditions in Germany during the first few months of the war. Dr. Stoddard is scrupulous to avoid being influenced in any way by his feelings about the cause for which Germany is fighting or the nature of the German regime. Although he wrote the book after getting out of Germany, and therefore did not have to comply with the German censorship, he has maintained such a perfectly neutral attitude that he should have no difficulty in getting back into Germany after its publica-



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Elizabeth Arden

Salons: SIMPSON'S—Toronto and Montreal
NEW YORK LONDON PARIS TORONTO

of characters printed in the early pages is a good one and every story that lacks this essential guide is a failure. That is one reason why we so thoroughly enjoyed "Bermuda Burial" by C. Daly King (Collins \$2). It deals with a kidnapping plot and is the best story we remember which has this fascinating theme. The author lives part of the year in Bermuda and therefore his local color is rich. His characters are also well studied and he does not shrink from having his detective hero fall passionately in love. On all counts "Bermuda Burial" is a sound piece of work. . . . We could say much the same thing about "Sweet Poison" by Rupert Penny (Collins \$2) with the reservation that it is

THE FILM PARADE

Miss Austen's England -- Hitler's Germany

BY MARY LOWREY ROSS

IT'S hard to say whether the credit for the screen "Pride and Prejudice" should go to Greer Garson for her lovely performance as Elizabeth Bennet, or to Aldous Huxley and Jane Murfin who prepared the script, or just to Jane Austen. On the whole it would seem to be Jane Austen's picture, for apart from the rather bouncing intrusion of Mary Boland and one or two others, the picture is patterned as closely as possible on Miss Austen's literate style and her precise yet elaborate wit.

It was fortunate that Aldous Huxley happened to be in Hollywood at the time the picture was in preparation, since he combines a respect for English letters with a sharp, modern discernment of what the screen will take. It can always take sharp characterization and a skilfully built narrative but it is more surprising that it should have adapted itself so easily to Jane Austen's malicious early Nineteenth Century dialogue. The Austen dialogue, delivered almost intact, comes off wonderfully on the screen. The demure Miss Austen could purr and scratch with the best and the Lawks-a-mercy idioms does nothing to disguise an attitude towards her own sex so essentially hard-boiled that it might make even Miss Clare Boothe blench.

But with all her satirical eye for snobs and prigs and scatterbrains Jane Austen knew how to create sound and genuine character. Her Elizabeth Bennet is certainly one of the most charming feminine figures in all fiction; and it is hard to imagine Elizabeth played better than she is here. Greer Garson seems to have every qualification for the rôle—gaiety, affection, intelligence, with just enough beauty to make her sharp wit acceptable. As for Lawrence Olivier he can always be depended on for a handsome display of the sulks and his rather stylized hauteur in the role of Darcy is close enough to the intention of the author to be effective. Miss Austen after all put most of her loving care on her heroine and was content to write her romantic hero off as little more than a fine stuffed shirt of the period.

Apart from the principals "Pride and Prejudice" suffers to a certain extent from curious mistakes in casting. Jane Austen's Mrs. Bennet was a volatile fool but she was hardly the schizophrenic matron played here by Mary Boland. (You know Mary Boland's matrons—this one is exactly like all the rest, minus a Pekin on a string.) Edmund Gwenn, with his Stanley Baldwin-ish air of geniality, hardly suggested the sardonic Papa Bennet. The Austen Mr. Collins, too, was merely an excruciating bore, but Melville Cooper seemed determined to

and diabolical police may all be authentic, one questions whether it was a wise idea for the producers to put all their bad eggs in one basket. Sometime they may want to make another picture of Nazi Germany.

COMING EVENTS

FIRST Lady of the Theatre" by family background and her own divine right of theatrical conquest, the regal Miss Ethel Barrymore opens the regular autumn and winter season at the Royal Alexandra Theatre when she and her own large supporting company will present Richard Brinsley Sheridan's "The School for Scandal" for a week's engagement commencing Monday evening, September 2nd. First produced at the Drury Lane Theatre in May of 1777, this greatest of the Restoration comedies of manners is still held by dramatic authorities to be the most popular comedy in the English language.

Incidentally, this is the play in which Miss Barrymore made her debut at thirteen in Montreal with her uncle, John Drew. "The School for Scandal," which is lusty playwriting in the grand tradition, presents a splendid season for the Royal Alexandra Theatre. On her two previous appearances here, Miss Barrymore has played old-woman parts, notably in "Whiteoaks of Jaffna" in which she was a centenarian; this time, the admirers of this great actress will see her as her own beautiful self. "The School for Scandal" will be elaborately costumed and staged in the period of George the Third, complete with incidental music, minuet, and the lusty drinking songs of the day.

A splendid schedule of plays has been assembled by Ernest M. Rawley, manager of the Royal Alexandra Theatre, for the forthcoming weeks. These include John Barrymore in "My Dear Children," Katharine Hepburn in "The Philadelphia Story," Gertrude Lawrence in "Skylark," "The Time of Your Life" with Eddie Dowling, "The Man Who Came to Dinner," "Life With Father," "The Male Animal," "DuBarry Was a Lady," "The Fifth Column," "Hellzapoppin" and "Too Many Girls." Meanwhile, Frank McCoy, who so successfully produced the summer festival of famous stars in famous plays at the Royal Alexandra, is at present in New York completing casting arrangements for three plays which will tour Canada under his aegis this season. These will have Francis Lederer in "Autumn Crocus," the lovely Margaret Bannerman in "April," and the charming Helena Pickard (Lady Cedric Hardwicke) in Barrie's famed "What Every Woman Knows."



ETHEL BARRYMORE, who will appear in Sheridan's "The School for Scandal" at the Royal Alexandra Theatre, Toronto, the week beginning Sept. 2nd.

POR TS OF CALL

A Water-Locked Paradise

BY L. B. CALNAN

AMONG the counties of the Province of Ontario, Prince Edward's birth-right is unique. It is the only county entirely encircled by water. For Lake Ontario, and that far-stretching body of yachting and fishing water known as the Bay of Quinte, lap Prince Edward's deeply indented boundary, with the Murray Canal completing the encirclement. Tourist advertising claims for the district "500 miles of Shore-line drives within a radius of 20 miles from Picton."

Because Prince Edward County in Ontario is water encompassed, some ambiguity arises in outside points with reference to Canada's Prince Edward Island on the Atlantic seaboard. It is partly for this reason that the local travel promotion literature for several years has dubbed this Ontario county, "Quinte's Isle of Lakes and Bays."

Revelling to their own satisfaction in the beauty of numerous shore-line drives, in the holiday-time appeal of sand bathing beaches and in the results of fishing in the Bay of Quinte, Prince Edward's failed until a few years ago to "carry the message to Garcia" in the sense of publicizing their district for creating financial returns from the tourist trade. That was partly because the local people did not perceive the unusual appeal to holiday-seekers, comparatively, of the local geographical set-up, partly because most Prince Edward's are content with things as they are, and partly because the bridges and ferries leading to Prince Edward have been until recently somewhat off the beaten track of travel.

However, recent years always have seen travel literature concerning Prince Edward County prominently featured in folder racks of tourist information bureaux, chambers of commerce and metropolitan hotels. This printed matter has stood up well as to its result-getting power, and it has been unique since it was the result of an advertising fund created by co-operation between the County Council, the tourist hotels and the tourist homes and cabins.

Now, Quinte's Isle of Lakes and Bays (Prince Edward County) feels less isolated, for the completion, according to King's Highway standards, of scenic No. 33 Highway, offers the choice of a route via Concession, Wellington, Picton, Glenora, Adolphustown and Bath, as an alternative to No. 2 Highway, on the stretch between Trenton and Kingston. There is a free 12-car ferry connecting the water-separated Glenora-Adolphustown link. No. 33 follows the course of the historic Danforth Road which, in the days of first settlement, was the stage-coach road for the carriage of passengers, mail and freight.

This new scenic motor highway appropriately might be named "United Empire Loyalist Way" for the road passes through the countryside earliest-settled in Ontario through the coming of the Loyalists in 1784 and following years. Prince Edward's blue-blood families are inclined to tracing of their ancestral records, with the result of claiming the right to place "L.E." after their names.

THIS proclivity is in line with the county's place names which align the district closely to patriotic or imperialist sentiment. Of the original "Ten Towns" surveyed in the early days of the settlement of Upper Canada, three were in Prince Edward. These three were Marysburgh, Sophisburgh and Ameliasburgh, known as Fifth, Sixth and Seventh Towns. They were so called from the number of the order in which they were surveyed. Kingston was first town, Ernesttown second town, Fredericks-

burg, third town, and Adolphustown, fourth town, all adjoining the water-bordered No. 33 highway.

The three Prince Edward County municipalities, which originally composed all of the county, were named for Mary, Sophia and Amelia, daughters of King George III. The county itself was named for Prince Edward, son of George III, who afterwards became Duke of Kent and father of Queen Victoria and great-grandfather of King George V.

Many other county place-names are derived from loyalist sentiment. Picton town, for instance, owes its name to General Sir Thos. Picton, second-in-command to the Duke of Wellington at the battle of Waterloo.

Those who take pleasure in things of historical significance find Prince Edward County a rich storehouse where sites of mills and shipyards of pioneer days are among the more interesting spots. Within a mile of Picton is the White Chapel, (Conger Chapel) built in 1809, said to be the oldest shrine of Methodism in Ontario to have been in continuous use as a place of worship.

Canada's Confederation Premier, Rt. Hon. Sir John A. Macdonald, lived as a boy and young man at Stone Mills, now Glenora, five miles from Picton, where his father built a grist mill. For three years, as a young barrister, Sir John practised law in Picton.

Glenora is also noted as the spot where Lake-on-the-Mountain occupies its rock cradle at the edge of the precipitous bluff from which one overlooks the ferry landing directly below



THE OLD WISHING TREE on highway No. 14 and near the sand hills in Prince Edward County. —Photo by "Jay".

supplying water to one of the Ontario Government's largest fish hatcheries, adjacent to the ferry landing.

Sometimes an area of water is described as land-locked; conversely it is appropriate to think of Prince Edward County as "water-

a variety of scenic waterfront drives sufficient for each day of the week. One of the most popular of these passes the famous old "Wishing Tree" on West Lake shore. According to popular belief, wishes made in passing the tree are likely to come to fulfillment, provided the wisher keeps silent until he reaches a certain country church a mile away. Before settlement days, Indians are supposed to have touched their arrowheads to the trunk of this tree to give them good luck on their hunting trips; a goodly number of old arrow heads found close by give some strength to the fact of this folklore.

Prince Edward County has long been famous for its Sandbanks area skirting Lake Ontario for five miles between West Point and Wellington Village. The sand hills, of considerable height in places, are formed of exceedingly fine and clean sand particles. This phenomenon, also creating an extensive mileage of sand bathing beach at the Sandbanks and Outlet areas, contributes to the holiday-time appeal of Quinte's Isle of Lakes and Bays. The Outlet sand beach, on which motor cars may travel, is said to be among the finer bathing beaches of the province.

For the fisherman, the Bay of Quinte waters have acquired a considerable reputation for maskelunge and bass fishing, with the inland lakes of the county also claiming enthusiastic devotees for return visit yearly pilgrimages.

Primarily a rich agricultural area devoted to mixed farming with special emphasis on purebred Holstein dairy cattle and canning crops. Prince Edward has regarded the tourist industry as something of a side-line. But, for several years, a Publicity Committee, representing the County, has succeeded in developing this side-line into a business of sizeable dimensions. Tourist accommodation offered has increased yearly with a gradual, sound and steady growth in quality and quantity.

Those who become interested in locating a suitable holiday spot in Quinte's Isle of Lakes and Bays, (Prince Edward County, Ontario), are assisted by the comprehensive advertising booklet, copies of which may be secured from the writer, L. B. Calnan, Industrial Commissioner, Picton, Ontario.

TRAVELERS

The Misses Phyllida and Venezia Brewis and Miss Elizabeth Heathcote arrived in Montreal recently from England and were the guests of Miss Gertrude Clergue. Miss Heathcote, following a few days' stay, proceeded to Hewlett, Long Island, where she will be the guest of Mrs. Olney for the duration. The Misses Brewis will stay with Miss Clergue for the duration of the war.

Sir William and Lady Aykroyd, of Yorkshire, England, with their daughter-in-law Mrs. George Aykroyd, and their six grandchildren, are at the Heathcote Inn, Scarsdale, N.Y., for the duration of the war.

Mr. and Mrs. Hugh Phillips have as their guests Mrs. Fred Phillips and her grandchildren, Miss Stella and Mr. Brian Phillips who arrived recently in Winnipeg from England.

Lady Price, of Quebec, is now occupying her cottage at Tadoussac where she will remain for the season.

Mrs. Bertram Osler Bowen of Buxton, England, and her two children are guests of her husband's aunt Mrs. Wilmot L. Matthews, in Toronto, for the duration of the war. At present they are at Roches Point, Lake Simcoe, at "Cottage-in-the-Field," the summer house of their hostess.

Lady Redfern and Mrs. Percy Nelles, have returned to Ottawa after spending a few weeks at St. Andrews-by-the-Sea.

Mrs. Grew, wife of the United States Ambassador to Japan, who has been the guest for two weeks in Ottawa of her daughter, Mrs. Pierrepont

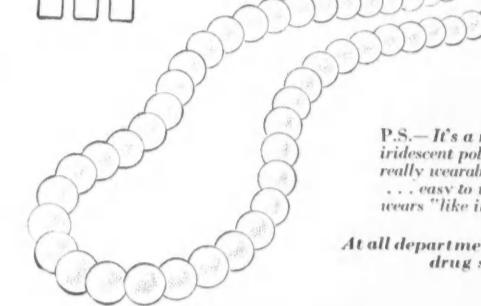
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MONTRÉAL

NEW YORK

LONDON

PARIS

Moffat and the United States Minister to Canada, has left for Japan. Mrs. Moffat accompanied her mother to Toronto.

Lady Rosemary Hills, granddaughter of the fourth Earl of Minto, at one time Governor-General of Canada, and daughter of the Countess of Cromer, who recently arrived from England with her children, is now the guest of Mrs. John Todd at Senneville, Que.

Canon and Mrs. Bertal Heeney have returned to Winnipeg from their annual vacation in eastern Canada.

Mrs. Scott who with her husband, Major G. H. Scott, has been in Ottawa for the past few months, has returned to her home at Pender Island, off the Pacific Coast.

Road Making

(Continued from Page 21)

presents a serious problem, which will have to be tackled some day but is not likely to be dealt with until after the war. The only possible route is by way of Burlington Beach, which is cut in the middle by a deep-water channel of the greatest importance to industrial Hamilton. At present the lift bridge over this channel presents an extreme bottle-neck for Toronto-Niagara road transport, and the only effective solution appears to be a metal viaduct graded up to the height—a very considerable one—necessary to clear the water-borne traffic. This



MRS. GEORGE BLACK, who joins the ranks of recent authors with the publication of her new book, "Yukon Wild Flowers." The photograph is one taken by her husband, Hon. George Black, K.C., M.P., for Yukon, whose camera studies illustrate the book for the duration of the war.

is quite feasible mechanically, but would require a very great length of expensive steelwork.

The completion of this, the most important link between the highway system of Ontario and that of Western New York, is due in the main to the courage and imagination of Ontario's Minister of Highways, the Hon. T. B. McQuesten of Hamilton. Mr. McQuesten was one of the first Canadians to realize that the modern heavy-traffic trunk highway was destined to be built very much after the fashion of a railway, so that traffic on it would not be interfered with by crossings, entrances or exits except at rare and clearly designated points, and with complete separation between the opposing streams of traffic. The Niagara Peninsula, carrying not merely the traffic between the Niagara frontier and Ontario, but also a great volume between that frontier and the other Great gateways into the United States on both sides of Lake St. Clair, is the most important land route in Canada, and was obviously the place for Canada's first experiment in really monumental road making.

*Fronts on St. Paul's place of work on King's Plate are protected by a visible sterling silver mound.

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King's Plate is now available in the exquisite patterns illustrated - Inspiration and Mayflower - two most envied designs. You'll be justly amazed to learn how easy it is to own -- or give, a set of this superb flatware -- Canada's supreme value. Luxurious costs as low as \$27! Ask your Jeweller or Silverware Dealer about the budget plan.

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NIAGARA FALLS, ONTARIO



LOOKING ACROSS PRINCE EDWARD COUNTY from a point near "Smith's Point," and the town of "Cherry Valley." —Photo by "Jay".

ABOUT FOOD

The Call of the Bottle

BY JANET MARCH

IF YOU own any sort of cottage in the country you probably, like me, are a prey for those books filled with attractive photographs usually called something like "How I built my country eyrie." The queen of these is a little volume which describes how a city couple with no help, and no previous training, did all the carpentering and decorating in the house and built a garden on the side of a steep hill which included a swimming pool, five hundred feet of stone wall and a countless number of terraces. They also grew enough vegetables in the first season to live on all winter. Personally I think they just took time off from pouring the cement for the cellar floor to gnaw a raw parsnip, for the author points out that far more vegetables than are usually supposed can be eaten raw.

In the space of a year or so handsome evergreens which they dug up in marshes and transplanted by wheelbarrow, are to be seen around the house and marble benches adorn the lawns. It makes the couple of bean rows on your own estate look pretty poor. By the way Yeats is right, you do need nine if you plant in rotation, but heaven help you if they all mature at the same time.

This same woman who seems, in print at least, able to do anything with her hands was mad on canning. The first season she did herself three hundred and fifty jars of vegetables and a hundred glasses of jam and jelly. This caused me to rush right down stairs and begin counting, only to be pleasantly surprised by the results. After all pickles, peaches, pears, grapes and plums are still to be done. In fact the height of the bottling season is just coming on.

Being a cook in September is a strenuous job. Just when you are counting on cleaning out the kitchen cupboard along come some more plums and you're at it again. This week I've enjoyed reading E. Nesbit's masterpiece "The Phoenix and the Carpet." This was a book our family never owned. We had to borrow it and the family that did own it was stingy about lending too. "Only once a year. There are six of us and you keep it forever." "Well," we said, "if you are so mean you can't have our 'Amulet'." "We don't care, we don't like it as well." Neither did we, so that was that. If you turn to the third chapter of the "Phoenix" you will find that it is called "The Queen Cook." This is the adventure when the five children and the Phoenix and the cook who was included because she refused to step off the rug, were wafted on their magic carpet to a South Sea Island. The cook refused to return. "It's a dream, I expect," she said. "Well, it's the best I ever dreamed... Long as this here dream keeps up I'm as happy as a queen." And she stayed there as Queen of the savages. Camden Town's kitchen saw her no more and I bet it was canning time. Oh for a magic carpet just till all this rather too generous produce of the land is in bottles.

A kind correspondent who signs herself "Old Housekeeper" sent in the following directions for jelly. Red currant time is past but if you own a jelly bag and a little patience you can jell almost anything and the grapes and crab will be here soon. Here is her recipe originally given for red currants.

Jelly

"Remove the stems of the grapes and wash them by putting them in a colander and running the cold tap on the fruit. This provides enough moisture to enable you to mash the fruit in your kettle. Let this all cook until it is soft enough to run through

a jelly bag. Let drip over night. Measure your juice and allow a pound of sugar to a pint of juice"—if the grapes are sweet this will be a little too much sugar—"Heat the sugar in a flat pan in the oven. Bring the juice to the boil and boil for ten minutes. Do not skim until you have added the sugar. Add the heated sugar and when it is well dissolved and again comes to the boil, boil for exactly three minutes and skim well. This makes a clear, firm and pretty jelly. Six quarts of fruit and two and a half pounds of sugar makes about twelve glasses of jelly."

Everybody has his favorite brew of pickle made every year without fail, but it's good to add a few bottles of different ones every year. Here's a sweet one to try.

Sweet Crab Apple Pickle

3 pounds of crab apples
2 cups of cider vinegar
1 cup of sugar
2 teaspoons of cloves
2 teaspoons of allspice
2 teaspoons of black pepper
2 teaspoons of ginger.

Take the stems off the crabs and cut them in halves or quarters if they are big ones. Pour on just enough water to avoid burning and sticking and cook till they are soft. Put through a coarse sieve. Tie the spices in a bag, and add them and the vinegar and sugar and let the mixture boil from twenty minutes to half an hour.

A FEW weeks ago a group of Hutterites were refused entrance to Canada from England where they had found sanctuary from Nazi persecution in Germany largely through the instrumentality of the Society of Friends. And this, in spite of the fact that England had granted them exit permits which should have been ample proof of their integrity.

When Hitler came to power the wealth and property of the Hutterian Brethren were confiscated and many were arrested and brought to trial because of their principles of non-resistance and their absolute refusal to co-operate in the Nazi regime. Some of their leaders even went voluntarily to the authorities and refused to register for military service. These were immediately placed under arrest and some of them were sent to concentration camps.

The Nazi officials attempted to bribe them into submission by offering freedom from military service in return for their wealth and property. But, like their martyr brethren of old, the Hutterites refused to be bribed, with the result that their wealth and lands were confiscated and they were forced to flee from Germany and to start all over again in a new country as they have so often done in the long history of their movement.

Julius Kubassek, their leader, is a man of great personal charm and strength of character, and his life story is well worth knowing. When a young man working as a draftsman in a factory in Budapest, Julius Kubassek, then a Roman Catholic, shared a room with another Hungarian lad, a Presbyterian, who followed the practice of daily Bible reading, much to his amusement. Julius teased his room-mate so much that the boy finally said, "How can you tease me about my reading of a book which you have never read yourself and consequently know nothing about?" And so, first from a sense of fair play and then from curiosity, Julius Kubassek decided to read the Bible. So intensely interested was he in this strange book that he read it several times over, and



SCRIPTURE LESSON. Julius Kubassek, leader of the Hutterian group near Ayr, Ont., with the small members of his flock. They start to study the Scriptures even before they learn the alphabet.

This year looks like a good one for recipes for green tomatoes. Rainy July slowed the tomatoes down and it looks as if frost is going to catch us with an awful lot not yet ripened.

Green Tomato Pickle

1 basket of tomatoes
8 large onions
1 cup of salt
6 green peppers
6 cups of brown sugar
3 tablespoons of celery seed
6 tablespoons of mustard seed
Spice bag with cloves, stick cinnamon, and allspice berries tied in a bag
Cider vinegar.

Peel the tomatoes and the onions and slice them in thin slices and lay them in alternate layers, sprinkling heavily with salt. Let them stand over night. Put the tomatoes and

onions on to cook with the six green peppers chopped finely, add the brown sugar, the celery and mustard seed and the slices and enough vinegar so that you can see the liquid in the kettle. Simmer this mixture for two hours.

Indian Pickle

2 dozen ripe tomatoes
18 cooking apples
6 onions
1 1/2 quarts of vinegar
6 cups of brown sugar
1 3/4 cup of salt
1 1/2 teaspoons of ground ginger, mustard, ground cloves, and black pepper.

Peel the tomatoes, apples, and onions, and put them in the kettle and let simmer for about three hours, stirring often. Then bottle.

A Bruderhof Comes to Ontario

BY GRACIA D. BOOTH

trated on farming, and that along the most up-to-date and scientific lines. How blind and deaf (and shall I say dumb?) we often are, as nations as well as individuals, when opportunity knocks at our doors!

Ontario Settlement

I have but recently visited a small Hutterian group just taking shape near Ayr, Ontario, and the lovely little village of Glenmorris sprawling over the beautiful green hills and fertile valley of the Grand River not far from Galt. Here on a two-hundred-acre farm, with a very large house and barns, we found three families, all of Hungarian stock, with seventeen children and several unmarried men — one a Scotsman! — living a "communal" life patterned after that of the early Christians but going farther in that it included a community of production as well as of consumption. The group settled here in April when they came from Alberta, where there is a very large Hutterite colony.

Julius Kubassek, their leader, is a man of great personal charm and strength of character, and his life story is well worth knowing. When a young man working as a draftsman in a factory in Budapest, Julius Kubassek, then a Roman Catholic, shared a room with another Hungarian lad, a Presbyterian, who followed the practice of daily Bible reading, much to his amusement. Julius teased his room-mate so much that the boy finally said, "How can you tease me about my reading of a book which you have never read yourself and consequently know nothing about?" And so, first from a sense of fair play and then from curiosity, Julius Kubassek decided to read the Bible. So intensely interested was he in this strange book that he read it several times over, and

was particularly impressed by the story of Jesus and of the early Christian fellowship, with their "having all things in common." Out of this deep interest there gradually grew the conviction that, for himself at least, the renunciation of all wealth and property was essential to true Christian life and service, and he began to put this belief into practice in his own personal life.

Soon he became convinced that more important still was the making of friends and living with and working for them — having nothing for himself alone but sharing all and leaving the friend free to co-operate or not as he chose. This principle of loving, serving and sharing with no thought of reward should form the foundation for true Christian fellowship and if actively demonstrated in daily living would influence others to come into this fellowship.

Some years later Julius Kubassek came out to Canada and found work in a lumber camp. Here some of his friends came to believe as he did and eventually, under his leadership, a small colony of such believers was organized, none of them knowing, at the time, of the large Hutterite group in Alberta who had settled there when forced to flee from the United States during the world war, to escape persecution because of their pacifism. Upon hearing of this Hutterite community or "Bruderhof," whose basic ideas were the same as their own, Julius Kubassek and his followers removed to Alberta and settled nearby and after a while were received into the Hutterian fellowship.

The founders of the first Bruderhof were refugees of the Swiss Brethren church of South Germany and the Tyrol who fled into Moravia and there established a colony where "each and every one laid down upon a cloak spread upon the ground all of his earthly possessions unconstrained and with a willing mind according to the teaching of the prophets and apostles." This was the beginning of their practice of Christian communism, which, contrary to modern "Red" communism, renounced force and was rooted in Christian faith and love, and was religious through and through.

In 1533 Jacob Hutter, a former Swiss Brethren minister, from the Tyrol, was chosen "head pastor" of this first Bruderhof or Brotherhood. In 1536 he suffered martyrdom as did many other members and leaders in the years that followed.

Because of the great economic benefits to be derived from the Hutterian settlements many of the Moravian nobles found it to their interest to tolerate and protect the Hutterian

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Fill a tall glass with some ice cubes... pour in about three fingers of AYLMER GRAPE JUICE... fill up with your favourite Dry Ginger Ale, or other "Mixer" and stir gently. * It's Canada's new national drink! Even the cool "blu"-ish color of it makes you feel refreshed! AYLMER Brand is the pure, undiluted juice of Canada's finest grapes.

AYLMER Natural Flavour GRAPE JUICE

TORONTO'S RESIDENCE FOR WOMEN

Light Airy Bedrooms, Attractive Sitting Rooms, Excellent Meals, Laundry Facilities.

Transients Accommodated

Operated by THE SISTERS OF SAINT JOHN THE DIVINE

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Brethren. Coming as they did from the various countries of Western Europe and pooling all technical skills and experiences, as well as worldly goods, they created an unusually fine type of workmanship in crafts and skills. No money was handled by individuals but all money coming in from sales of produce was deposited with a "manager" who procured all raw materials for their work. No wealth was hoarded but a "capital reserve" was built up when possible as a protection in case of loss through war or persecution or depression.

In spite of the protection of the Moravian nobles, there began in 1535, at the demand for their expulsion by King Ferdinand of Austria, a terrible time of persecution and martyrdom which continued almost constantly, through many, many years. Driven from their dwellings, their lands and wealth confiscated, they hid in forests and in holes in the cliffs, like hunted animals. There were brief intervals of toleration when the Moravian lords, not only permitted but assisted them to re-settle in their lands.

The years 1874 to 1879 witnessed a great exodus of Hutterites from Russia to the United States after the Russian government withdrew its grant of freedom from military and government service. Quite a large number also settled in Germany.

This Ontario group is attempting a type of model farming using the most scientific methods and working in close co-operation with the Agricultural College at Guelph. They have one champion cow producing 72 lbs. per day and their ambition is to build up a hand-picked R.O.P. herd of pure-bred Holstein Friesian cattle.

(Continued on Page 28)



"FOR THE CHILDREN OF THIS WORLD are in their generation wiser than the children of light."

WORLD of WOMEN

Behind The Curtain

BY BERNICE COFFEY

HAIR from the heads of German women is used to make socks for Germany's soldiers. . . . In Oslo, Norwegian girls seen fraternizing with German soldiers are liable to have the hair of their heads shaved off as a badge of dishonor. Could be that the Norwegians are quietly weaving it into hair shirts for their guests?

Perhaps it is as well that so little news comes out of Paris. As all who have known and loved her must realize, the Paris with the Nazi mark upon her brow is not the same beautiful city which held a little part of the heart of all who have ever strolled along her boulevards in spring, or sat at an open-air cafe and watched the passing scene while slowly savoring the wines of France.

But those who have a melancholy interest in what is happening now in the great city may take a lugubrious pleasure in learning of what goes on, as seen through the eyes of a neutral traveler.

The wide boulevards and avenues are devoid of most of their traffic, and vivacious taxis have altogether disappeared into the limbo reserved for gasoline-less taxis. Albert—do you remember Albert?—no longer is at Maxim's. Nazi officers predominate there, as they do at Laruë's and in the dining room at the Ritz and Pierre's. The Hotel Crillon, headquarters of the German military staff, is banned to other guests and the side-walks from the corner of the Rue Royale and the Place de la Concorde near the Crillon entrance, are "verboten" to pedestrians.

A few of the designers have tentatively re-opened their businesses. Among their clients are the wives of higher officers of the German occu-

pational army, mute evidence that all women, even German women, are sisters under the skin in their interest in what goes on over the skin. These new clients purchase the frocks with "occupational" marks, one of the politer forms of painless looting invented by the Nazis.

And speaking of politeness, the invaders must have been reading Emily Post. When a woman enters a Metro train or bus all the German soldier-passengers rise, click heels, bow from the waist and remain standing until the woman takes a seat—even if there are many seats vacant. Meanwhile, seventy-five per cent of the potato supplies is being requisitioned for German troops in the city. The boys still have much to learn.

Can You — ?

Now that we have had time to ponder the curious defect in our education which obliged us to answer No to "Can you milk a cow?" it behoves us to take stock of what we know about cows or what is more to the point, what we do not know about cows.

The phrasing of the question you will remember—indeed how can you forget it—was a model of terse simplicity. No subtlety was wasted in introducing the subject, such as "Do you think you could milk a cow?" "Have you ever tried to milk a cow?" "Are you fond of cows?" or "Speaking of cows—"

A cow is a large object to introduce abruptly into a conversation. The effect on the bystander is much the same as if during an aimless discussion someone should break a cozy silence with "Has anyone here ever piloted a blimp?"

Mrs. Vincent is an elderly matron of unassailable dignity and large tolerance. She is a waitress in one of those unassuming and rather drab tearooms found on the side streets in the business district of all cities. These tea-

rooms invariably are presided over by one or more implacable spinsters, and the fare ranges from meagrely good to merely indifferent. Despite all this, however, Mrs. Vincent manages to rise above the environment.

But to return to Mrs. Vincent as she tucks back and forth between tables and a slot in the rear wall where she communicates her orders in a loud voice to someone called Annie. Every day at the stroke of one Mrs. Vincent leaves her customers and goes to the pay telephone standing near the cashier's desk. There she inserts a nickel, dials a number, waits a few moments and then replaces the receiver. After a short pause the machine reluctantly regurgitates the coin because the call is unanswered. Mrs. Vincent briskly pockets the nickel and returns to her duties.

Habitudes of the place pass knowing glances. Mrs. Vincent will arrive home that evening at the usual hour, and her family knows it.

Vice-Regal Memory

Numerous delightful little incidents took place when the Governor General and the Princess Alice visited the Canadian National Exhibition at Toronto recently. Among them was one which took place during the vice-regal inspection of the Red Cross exhibit.

Present among the ladies of the Red Cross was Mrs. Black, wife of Lieutenant-Colonel William Black of Toronto. Some days previously Mrs. Black, a connection of the Baring family, had heard that some members of the family had arrived at Government House and had written to inquire. A prompt reply had been received from the Hon. Ariel Baird, lady-in-waiting to Princess Alice.

Mrs. Black's surprise may well be imagined when, on meeting the Hon. Ariel Baird, she immediately remembered the letter and mentioned it to Princess Alice—who also recalled all the circumstances and the reply which had been sent.

"I hope it was a nice letter," she remarked of the letter to Mrs. Black, with the smile which has charmed all those who have met her.

Dept. of Communication

"WOMEN READ SERVICE COPY MORE EAGERLY THAN HOT WAR NEWS"

So says C. B. Larrabee in Printers' Ink Weekly for "August 2, 1940, reporting the results of a study conducted by the Bureau of Advertising of the American Newspaper Publishers Association.

According to this study, a story about a cooking school was read by 48% of the women who saw the paper used for the test, whereas the main war story telling about the Germans invading Norway was read by only 28% of the women who saw that paper.

This fact illustrates again why a well edited women's service magazine such as CANADIAN HOME JOURNAL with a monthly audience of a quarter of a million Canadian women continues to play such an important part in sales and merchandising in Canada.

By concentrating on giving these women the type of material they want most of all in practical service departments such as cookery, entertainment, fashions, beauty, baby welfare, homes, etc., combined with interesting fiction and general articles on timely women's topics, right now this magazine is the **one best medium** to reach women in Canada.

These two facts are significant:

1—CANADIAN HOME JOURNAL has had an increase in advertising lineage in every issue of 1940 (except one) as compared with the previous year.

2—CANADIAN HOME JOURNAL continues to lead all large circulation Canadian magazines in average lineage per issue.

CANADIAN HOME JOURNAL



GOLFERS—Mrs. J. C. Whitelaw of Laval Sur le Lac Golf Club, Montreal, and Miss C. E. Gooderham of Toronto Golf Club, who took part in the 11th Annual Ladies' Invitation Tournament of the Manoir Richelieu Golf Club at Murray Bay. Mrs. Whitelaw defended her title successfully, and Miss Gooderham placed fourth.



MOTHERS AND DAUGHTERS, all residents of Montreal, are caught by the camera while making plans for the day. They are seen at the Empress Hotel, Victoria, during a recent visit to the west coast. Left to right: Mrs. E. A. Whitley, Miss Mary Fowler, Mrs. T. M. Hutchison, Mrs. W. A. Fowler, Miss Barbara Whitley and Miss Marjorie Hutchison. Miss Barbara Whitley has just graduated from McGill. Miss Hutchison is still a student there. Among those who entertained for the Montrealers while they were in Victoria, was Mrs. Sally Benning, formerly of Montreal.



MISS BERYL MITCHELL, of Montreal, is photographed beside a picturesque old spinning wheel at The Pines, Digby, N.S., where she has been spending some time with her uncle and aunt, Mr. and Mrs. J. L. Busfield.

—Canadian Pacific Photo.

TRAVELERS

Mr. and Mrs. Boris Hambourg, who have been on a professional visit to New York and Boston, returned to Toronto for the Canadian National Exhibition, August 29.

Mrs. A. L. Stride has returned to Toronto from England, and is with her parents, Mr. and Mrs. E. James Bennett, at their summer house at Pointe-au-Baril. Their other daughter, Mrs. John G. Osler, is also with them.

Mr. and Mrs. Peter Norman Dawes, of Montreal, will take up residence shortly at "The Sheraton," 1540 Summerhill Avenue.

Lady Brinckman, who has been visiting her parents, Mr. and Mrs. Wilson Southam, at Portland-on-the-Rideau, is now in Calgary with her brother and sister-in-law, Mr. and Mrs. John Southam.

The Honorable Mr. Justice and Mrs. Bruneau, who recently returned from Paris, France, where they have been residing for a number of years, are at the Manoir Richelieu, Murray Bay.

Mrs. R. W. F. Northscott, of Portsmouth, England, is the guest in Ottawa of her brother-in-law and sister, Mr. and Mrs. J. A. C. Osborne.

Mrs. Wilfrid Bovey, of Montreal, who has been spending the summer at her cottage at Metis Beach, left recently for Sydney, N.S., to visit her son, Lieutenant John Bovey, R.C.N.V.R., and Mrs. Bovey.

Captain and Mrs. Hartland MacDougall and their family have returned to Montreal from Metis Beach, where Mrs. MacDougall and the children spent the summer.

Colonel and Mrs. G. L. Jennings, who have been spending several weeks at Lake Rosseau, Muskoka, have returned to Ottawa.

Mr. and Mrs. Gordon A. Ross, Miss Jean Ross and Mr. Gordon Ross have returned to Quebec from a stay of several weeks at St. Andrews-by-the-Sea and New Carlisle.

Mrs. E. Crombie and her daughter, Miss Marguerite Crombie, who have been at Metis for a few weeks, have returned to Ottawa.

Mrs. Ross Gooderham, who has spent four weeks at Emerald Lake, B.C., will return to Toronto by the new highway, Glacier Drive, making a short stay at Jasper Park Lodge en route.

Mr. and Mrs. Philip Kilvert have returned to Winnipeg from their wedding trip and are occupying their new apartment. Mrs. Kilvert was formerly Miss Betty Laird.

Captain and Mrs. Geoffrey Yates and their family, who arrived in Winnipeg recently from Nanaimo, B.C., have taken an apartment in Fort Osborne barracks.

Mr. and Mrs. E. W. Kneeland have closed their summer house at the Lake of the Woods and have returned to Winnipeg. They were accompanied by their daughter, Mrs. Charles J. Martin, and Miss Nancy Martin.

Mrs. C. B. Price and her four younger children have returned to Montreal following a visit of six weeks to Tadoussac. Miss Marjorie Price, who is in England, is attached to the Women's Transport Service.

Mrs. Carl Breuer, of Lima, Peru, with her baby daughter, has arrived in Ottawa to spend a few weeks with her parents, Mr. and Mrs. J. G. MacPhail.

Mrs. Hugh Phillips and Miss Louise Phillips have left Winnipeg for the east where they will be the guests in Midland, Ont., of Mrs. Phillips' aunt, Mrs. James Playfair. Later they will go to Montreal.

Can We Emulate Britain?

BY C. H. MILLARD

EARLY in May the Chamberlain administration was replaced by a coalition cabinet under Winston Churchill. The new cabinet was granted certain extraordinary powers over the economic life of the nation. A few weeks later Canada's Parliament granted similar powers to the King administration. But at that point the similarity stopped. Whereas the British war effort has forged ahead with a vigor which has astounded the entire world, the Canadian effort still plods on, as confused and bewildered as ever.

Several suggestions have been made for improvement. Most of them, when boiled down to essentials, propose that war contracts should be granted to a wider section of manufacturers than those favored with the friendship of the Liberal Party. To make this suggestion seem less mercenary it is usually decorated with such high-sounding titles as "coalition cabinet," "national government" and so forth. All such proposals show a lamentable lack of appreciation of the true factors behind the British revival.

Britain's overnight change from a government on the defensive to a people on the offensive was not accomplished by parliamentary resolution. It was the product of popular determination suddenly allowed to express itself through instruments which the people had built up within the economy of the country and which were quite apart from government machinery.

Previous to this change Britain's war effort plodded along like our own, constantly hampered by the impossible inner conflict between the popular will as expressed through political democracy and the interests of privileged classes who insisted upon their price and their power before allowing full use of the nation's productive machinery. This was the same inner conflict that Hitler solved by liquidating political democracy. The British people are solving it by liquidating economic dictatorship. Through such popular democratic organizations as trade unions and co-operative societies, which have now been given real power over the nation's economy, the people are accepting direct responsibility for the national effort.

Workers in Council

Britain's economic life is being regimented. But, inasmuch as it is being regimented by the people who take part in it, such regimentation is essentially democratic. Far more democratic than is the case in Canada. Here, as a glance at the present planning boards will quickly confirm, any regimentation that is in effect is under the control of the same men who control industry normally. Here, big business regiments small business, while the workers, who actually do the work, are constantly regimented by employers over whom they have no control whatsoever.

Supervising British production is a central Industrial Council. Under Chamberlain it was composed of business men only. Now, it is composed of equal representations of management and workers.

The same two-sided structure is being extended down into every facet of production. Each industry is under the control of a labor-management council, each district being correlated by a similarly constituted body. Individual plants which have already recognized a union, and that is the case in the majority of British plants, add management discussions to the agenda of regular meetings between worker and management. The newly-nationalized plants, and Mr. Morrison reported 1500 or more after two weeks of office, are run on the two-sided committee basis.

Nor is this sufficient. Still unsatisfied with both pace and efficiency, British Labor is already clamoring for elected plant councils which will have full charge of plant production. In such an election a working hand or a working manager would have an equal chance for election. And there would be little mercy shown to the candidature of any manager who held his previous position as a result of connection or who had no real ability to give leadership in production.

In the field of distribution there has been a similar abandonment of the old and hoary rules of private enterprise. The two "buyers" in Britain are the Military and the common consumer. The Military have never been in favor of any process whereby quartermasters can sell back and forth between themselves, adding a profit to each operation. Now, the consumers are also keeping close watch over extra profits and clearing unnecessary bottlenecks through district Price Control Committees.

Here the Consumer Co-operative movement is providing the democratic dynamic. Even before the war Co-op societies controlled almost half the retail trade of Britain and a goodly proportion of the food wholesale and import business. In thousands of little groups the housewives of Britain were discussing such things as food prices, good bargains and bad bargains, good food and bad food, in short, were learning all about every aspect of getting food from producer to final consumer. Today, those same housewives, through the groups they themselves had created, are planning their own little section of the nation's business.



C. H. MILLARD, the author of this article, is the newly appointed leader of the C.C.F. party for Ontario. He is a labor organizer of long experience, and "made the headlines" when he presided over the C.I.O. local at Oshawa during the big strike.

upon the people to do that planning, the government has handed the job over to men whose entire background is foreign to planning. Our much-touted dollar-a-year and thirty-dollar-a-day-expense man may be a fine fellow, but as far as the man in overalls is concerned he is still just the "boss." The fact that the Boss is now working for the government only makes the worker more suspicious of the government, not more friendly to the employer in question. We may build publicly-owned plants but we are turning them over to private industry again and will probably not encourage labor organization in them any more than we encourage it in private business. In all probability we will try to sell these plants to the private companies when the war is over. We may be policing the cost of living, but the average housewife doesn't appreciate the point since she has almost nothing to do with it.

One example of seeming indifference to the feelings of the workers has already been brought up in the House of Commons. A few weeks ago a Mr. Bateman was appointed as Comptroller of Mines and Metals. Mr. Bateman, who was secretary of the Mine Owners, had excellent relations with the mine owners but his relations with the miners were not at all savoury. Evidently Mr. Howe overlooked, or possibly completely ignored, the fact that Mr. Bateman

had just finished a tooth-and-nail fight against recognition of the Mine, Mill and Smelter Workers Union during a drawn-out Conciliation Board session. This dispute was reported at great length to all the well-organized miners in the Maritime and Western coal fields; it was watched with keen interest by gold miners in the north. Mr. Bateman had made several distinctly derogatory remarks about the miners' responsibility which were naturally resented.

Close examination shows that there are only two representatives of the producers on any Board which has control over the war program. One a Quebec farmer, the other a representative of the numerically small Locomotive Engineers. I doubt if the farmers' organizations have been contacted regarding planning agricultural production or marketing. I am sure there are no representatives of consumer organizations on whatever price control machinery the government has established. The government seems anxious to achieve popular co-operation. Yet it ignores the very groups which the producers have themselves created. It still hopes to whip up enthusiasm through men whose chief claim to leadership is their ability to make profits, not their ability to hold the respect of the people themselves.

What of Organization?

It may be argued by some that Canadian labor, Canadian farmers and Canadian consumers are not well enough organized to be entrusted with such responsibility. It is true that in Britain over 75% of the workers operate under collective bargaining contracts whereas less than 12% of our workers are union members, let alone operating under contract. It may be true that our farmers' marketing bodies are not challenging private food processors. It may be true that our co-operative movement has hardly made a dent in the country's retail and wholesale business. But surely the fact that our country is twenty years behind the average self-respecting democracy is not an excuse for inaction. It should, instead, be a challenge to government and people alike.

Canada must extend responsibility to those producers' and consumers' organizations that now exist, the presently constituted labor unions, farmers' organizations and consumer co-operatives. Further, since these groups hold the secret of success, every effort should be made to encourage them to expand their influence within the community until it reaches a point comparable with present-day Britain.

The workers themselves will do their end of the job. Since the publication of the recent government Order-in-Council which recommends labor organization during war time union offices are buzzing with applications. But, if we are to avoid government interference designed to force negotiations between employer and union, employers will have to adopt new conditions in good faith and try to overcome their past hostility to union organizers. They will find that we are not too bad to get along with and extremely anxious to build industrial co-operation.

For that minority of employers who must be forced to be patriotic, we need something like the present American labor legislation. It is correctly pointed out that more strikes and more discord are caused over the one issue of union recognition than any other single point; it is time this point was recognized in legislation. Our present cumbersome conciliation machinery should be replaced by a

So You're Off To College!

The place to get the real, down-to-earth facts about college clothes is Simpson's newly-opened Campus Shop. We've joined our fashion forces with the college girl editors of that smart magazine "Mademoiselle." Together we've assembled good looking clothes that are right on any campus. Of course, the most-talked about new male fashions are highlighted. The clothes you get will be right—that's important when you hope to make a good impression.

Simpson's



secret ballot on the question of union recognition. Should the majority of the employees show a desire to have a union represent them, that majority decision should be enough to make such action legally necessary for the employer.

An equally positive approach to the farmer and co-operative move-

ment should produce similar results in those fields.

But in the meantime we can start with what we have now. The time has come to tear down the layers of bureaucracy and tradition which are today keeping government and people apart. Let us, instead, allow the people, through their own chosen

economic organizations, to pour into Canada's war effort the same raw energy and amazing enthusiasm which is today proving to be the last minute salvation of Great Britain.

Not control by government, but control by the people . . . that is the British recipe for victory. It must be the Canadian.

Is "The Rock" Impregnable?

AS STRONG as the Rock of Gibraltar.

BY H. M. K. JEANS

For many years this has been an almost universal phrase to indicate the highest standard of impregnability. By reason of its position, its fortifications and its withstanding of several savage sieges, the fortress of Gibraltar is the most famous of its kind in the world. In the year 742 Tarik ben Zaid built the first castle upon the rock, naming it Jebel Tarik, from which the name Gibraltar has come; half way up the north-western slope of the rock the

keep, a massive square tower, stands today, evidence of the strength of the position.

Several times the rock changed hands between Spaniard and Moor and when in 1704 it fell into British hands it was on behalf of Charles, Archduke of Austria. We have to thank the foresight of Sir George Rooke, the British admiral, that on his own initiative he hoisted the British flag and took possession of the fortress in the name of Queen Anne. This event had been preceded by another fortunate event in British history, for the fleet and the 30,000 men under Sir George Rooke had been originally intended for an attack upon Cadiz. Only at the last moment was Gibraltar substituted. Thus one of the ancient Pillars of Hercules and the gateway which admitted British power into the Mediterranean came into our hands by a combination of luck and judgment.

Both French and Spaniard have since tried to wrest the rock from our hands. The sieges have been desperate, and in view of what may befall within the next few months it is noteworthy that strenuous efforts were made to attack by land. In 1781 General Elliott scored a brilliant success in what was known as the "Great Siege" by organizing a sortie in secret and destroying the Spanish works.

The connection between the rock and the mainland is by an isthmus, one and a half miles long and half a mile broad. Between the Spanish and British lines there is a neutral tract of uninhabited ground. Modern conditions have, of course, had their effect upon both the defence and the value of Gibraltar. While the harbor could contain the whole Mediterranean fleet, to whose gun-power would be added that of the immensely powerful batteries of the rock, the close concentration of so many ships would not be considered in view of the menace of air attack.

Impervious to Air Attack

That air attack could reduce or seriously endanger the rock itself is improbable in the extreme. The rock is honeycombed with galleries giving shelter to guns and troops, and even now air attack in its most violent form is but a preliminary action to attempted occupation by infantry. The dropping of vast quantities of high

explosive bombs upon the unfeeling rock could in no way affect the garrison's ability to maintain fire upon warships attempting to land troops or infantry, mechanized or otherwise, attacking on the landward side.

Gibraltar's value depends upon the situation in the Mediterranean. Although it is a vast fortress, it may more correctly be regarded as the bastion rather than the keep of our castle in the Middle Sea. And our keep is the fleet. Without the fleet Gibraltar's value to us would be small; it is a dockyard and coaling station, an auxiliary of the fleet, and as such must be regarded in the right perspective.

As Lord Sydenham has pointed out, Gibraltar does not close the entrance to the Mediterranean, which can be effected by a naval force alone. "The value of Gibraltar to the Empire is immense," he says, "but it is inexorably bound up with sea-power." It is, in fact, a fallacy to suppose that the guns of Gibraltar alone could close the Strait and while sentiment would make us cling to Gibraltar, the suggestion which has been frequently made—that we might exchange Gibraltar for Ceuta, on the African side of the water, is not altogether unreasonable.

Land Attack Impractical

On the other hand, the idea has been exploded in Parliament that heavy guns could dominate Gibraltar. Batteries on Spanish soil might have some nuisance value, but would be borne down by the superior weight of Gibraltar's fire, the extent of which, though kept an inviolable secret, is known to be immense. An enemy having gained a footing on Spanish soil would find all measures of attack circumscribed; such devices as surprise attack by mechanized forces, waves of tanks, and the like, which have played so important a part elsewhere, could not, by the nature of the terrain, be employed in a land attack upon Gibraltar.

There is a legend to the effect that should the Barbary apes, which are one of the natural features of the rock, all die or desert their ancient home, Gibraltar would shortly cease to be British. Hardly for that reason, but carefully none the less, the apes are looked after and fed by authority. Disease has struck them once or twice, but today they prosper and are very well.



"THE TRIUMPH OF FORTITUDE". This beautiful tapestry will be on view at the Art Gallery of Toronto for the duration of the war. Its title, "The Triumph of Fortitude", should be an inspiration to us all. The tapestry is dated 1520 and was made by Hispanic - Flemish workers. It probably took four years to complete. The scenes represent various instances where fortitude prevailed in Greek and Roman mythology and in biblical stories. It belongs to Sir Ronald Storrs and has been hanging in Eltham Hall for a number of years.

THE BACK PAGE

The Origin of "Hawkshaw"

BY HECTOR CHARLESWORTH

THE scene is a drinking room in a London pub of the type that prevailed 80 years ago, with tables at which customers sat and drank their beer. Around one table are seated a number of ugly customers, conspiring in low tones. At another a grimy navvy is apparently asleep with his head on the table. At another is one Bob Brierly disguised as a countryman. He is apparently unconscious of his neighbors, but is in reality listening intently, for he is a ticket-of-leave man, a bank clerk who had been "framed" and sent to prison through the gang he is watching. In whispers they are arranging to rob a bank and presently they depart, because it is near closing time.

Bob Brierly becomes vocal and soliloquizes somewhat as follows: "I must act quickly! I must write a letter of warning!" He is interrupted by the entrance of a tapster who shakes the drunken navvy and says "Twelve o'clock, and time to close up." Brierly still soliloquizes "But if I write the letter, who will take it?" The navvy leaps to his feet with a cry of "I will!"

"And who are you?" asks Brierly in excitement.

"Hawkshaw the Detective!" shouts the navvy, pulling off his wig. Curtain and vociferous cheers from pit and gallery.

Thus in the above scene from Tom Taylor's "Ticket-of-Leave Man" first acted in London in the early sixties, a new word was given to the English language. Ever since in every country where the English language is spoken, reporters and others have been using the word "Hawkshaw" as a synonym for "sleuth" or detective, and most people have long since forgotten where the term came from. Tom Taylor had a happy stroke of fancy hit upon a name so characteristic as to be unforgettable—a name that has lingered in memory longer than his own. The word "Detective" was itself comparatively new in 1860. It was not many decades since police investigators of this class had superseded the old fashioned Bow Street Runners. Taylor's bit of dialogue was possibly the very first use of the word "Detective" on the stage, and Hawkshaw thus became the ancestor of the mighty host of stage sleuths that have figured on stage and screen since his time—a more human figure than Sherlock Holmes who less than 30 years later was to capture and hold the public imagination.

THROUGHOUT the latter years of his career the great tragedian Edwin Booth used another of Tom Taylor's dramas, "The Fool's Revenge". The story was the same as that of Verdi's opera "Rigoletto", and both were founded on Victor Hugo's tragedy "The King's Amusement", banned in France by King Louis Philippe because it dealt rather harshly with an earlier French monarch, Francis the First and was in truth intended by Hugo as republican propaganda.

IT IS STRANGE that the most vivid of Taylor's stage characters which included so many august figures should have been the plain but volatile sleuth, Hawkshaw. Up to the time when William Gillette dramatized Sherlock Holmes he stood alone, and the great army of Hawkshaws that have since appeared in drama and fiction would no doubt astonish Taylor, dead these sixty years. The only other English melodrama of the 19th century comparable in interest with "The Ticket-of-Leave-Man" was Henry Arthur Jones' "The Silver King", twenty years younger but more impressive. But in that play the hero,

It is said that Taylor derived the plot of "The Ticket-of-Leave Man" from the French, but he made it so English in character and atmosphere



By Bert Bushell.



"But I Thought You Said You Preferred Guns to Butter!"

—By "Patch"

Wilfred Denyer, when he set out to clear himself, did his own sleuthing, and became Bob Brierly and Hawkshaw rolled into one.

When Hawkshaw became a stage character, English imaginative literature boasted but one super-detective, though Poe had conceived Monsieur Dupin and Gaboriau, Monsieur Vidocq. He was the creation of one of Taylor's closest friends, Charles Dickens. There are so many momentous characters in "Bleak House" (published in 1852) that somehow Inspector Bucket, the detective who plays such a part in the action, is seldom mentioned. Surely the whole

realm of English fiction, from his day to this, contains no detective so industrious and so ubiquitous as the phenomenal Bucket. No doubt Taylor had him in recollection when he created Hawkshaw, as had Wilkie Collins when he conceived the busy detective who figures in that first great English mystery tale "The Moonstone". Bucket would be more frequently mentioned had not Dickens' gift of effective nomenclature for once failed him. The name Bucket conveys nothing to the imagination. But somehow the very sound and connotation of the word "Hawkshaw" suggest a sleuth.

Summer, 1940

BY MARY LOWREY ROSS

SHE could see the children at the top of the hill—Tinka and Tony and the two little girls from the cottage around in the bay. They were no more than small black dots on the rail fence that ran over the hill, so far away that they looked like notes on a bar of music. It was time to bring them home and she knew how they would protest, dragging back all the way. "It's too early, it isn't dark

ESCAPE

THERE is a war on, But ladies talk about hats. It is a good thing that they are able to do this. Because it preserves a sort of feminine sanity.

Go into a tea-room, Listen to the chatter. If you want to lift yourself out of this nightmare of waiting, Listen to the ladies talking about their hats.

"I had a Leghorn last year..." "I know, But I like THAT one on you MUCH better."

Listen to the ladies Talking about their hats!

MONA GOULD.

time yet. We don't want to go to sleep," they always said, right up till the very last instant, when sleep dragged them under.

Give them five minutes more, she thought, and went round to the front of the cottage. The lake, colored like a Japanese lantern, burned brightly in the last light of day. She sat down in the deck chair on the beach and watched a loon fly over to the dark island across the lake. It sailed across without motion, high in the clear air. There wasn't a sound anywhere, not a ripple or a stir. It was like a world under glass.

Then she heard the faraway sound of a plane beyond the hills, and in a moment she saw it, high in the sky like a little silver toy. That would be one of the new practice bombers, she thought, watching it. There wasn't an hour in the day when they didn't come over the lake. You heard the faint beat at the horizon but when you looked up they were always in the centre of the sky, flying north or south. Only the children, busy playing in the sand or the water, never glanced up at them.

She could never get over the wonder of it, how they lived so secure and unquestioning in this fantastic world. The color was dying out of the lake now and the crickets had started their flat, rhythmic jangling that sounded so curiously, in the summer air, like sleighbells on a wintry night. She got up then and went round the cottage and down the road to the hill.

"It isn't time yet. It's too early," they shouted when they saw her. "I want to see the pigs," Tinka called, scrambling down from the fence. She started running down the hill to the farm, shouting "I want to see the pigs. I'm going to see the stinky old pigs." The others followed her, scattering over the hill, shouting in chorus, "We

want to see the pigs. We want to see the stinky old pigs!"

There was some demoniac energy that always seized them in the last hour of the day, they were like wild little animals flying from capture. She skirted the hill and went into the farm yard and in a moment they all came flying out of the wooden shed. She caught Tinka in passing, but Tinka wrenched away. "It's too early. I've got to say good-night to the kitty."

The little cat, standing in the barn doorway, didn't run away. But it braced its tiny legs against her chest when Tinka caught it up. And when she set it down it scampered off into the hay at the side of the barn. "It's bed time now, the kitty's gone to bed," Tinka's mother said, and the four, suddenly subdued, fell into line and walked sedately beside her down towards the road.

An old car rattled suddenly about a curve in the road. A farmer was driving it, and a soldier sat beside him. In the twilight they could just make out his young country face under the cocked khaki tam, and he waved to them and they waved back. Tinka, holding to her mother's hand, said suddenly, "Mummy, why do soldiers want to kill people?"

"But they don't!" she said quickly. "Darling, they don't want to kill people..." She held tightly to Tinka's hand, but Tinka pulled it away suddenly and ran ahead along the road, shouting back. "I'm not going to bed. I'm not going to bed till twenty o'clock."

IT WAS quite dark when they came down to the lake. The moon had come out and it hung sharp and bright and low in the sky. Tinka came down last of all, dragging her towel behind her and she stood at the end of the dock staring at the moon, her eyes dark and wide. "Mummy, what's that?"

"It's the moon, darling. You know the moon, that you used to see at home."

But this wasn't the moon she remembered, something pale and remote, seen from behind curtained

BEMUSED

I LEAVE my book and Run to meet your words, Then are you dumb, and I the tale have lost. I wake from sleep To write a poem true, But, pen in hand, I find that I am host To emptiness; To words that fit and play Like restless sparrows, Mocking reason's sway.

RENA CHANDLER.

London, Ont.

windows, across city roofs. She stared at it as it hung fierce and glittering out of the dark country sky. And suddenly she began to cry, "I don't like the moon," and ran and threw herself on her mother. "I don't like it," she said and began to sob, clinging tightly to her mother's neck, "I'm frightened of the moon."



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A Bruderhof Comes to Ontario

(Continued from Page 25)
cattle. They are also keenly interested in the production of pork for bacon.

The little girls tend the geese, as their responsibility, each one "raising" her own goose-feather pillows.

The produce from dairy, farm and garden is of the finest and one instinctively feels that because of their deep love of the land and their animals, they are able to draw from them the very best they are capable of producing. They firmly believe that "every cut of the hock is as pleasing to God as a prayer if it is sincerely made in faith and godly love" for the benefit of others as well as self.

We found our Hutterite friends all living together in one large house, plainly furnished but spotlessly clean. There are eleven girls ranging in age from little Magdalena, 2½, to Teresa, about 16. Of the six boys, baby Dannie, 5 months, is the youngest and the eldest is about 16 or 17. All of the blue-eyed children belong in one family—the brown-eyed in the other. These children attend the public school and all of the group are neighborly with and highly respected by the community about them.

The Hutterites have always been great believers in education and even have spiritual grounds for their progressive attitude—"For the chil-

dren of this world are, in their generation, wiser than the children of light."

Julius Kubassek is the spiritual leader of this group and each Sunday conducts two services in the large dining room, with singing of hymns, prayer, Bible reading, and sermon. There is no musical instrument but the children are trained in hymn singing almost from infancy, and how they can sing! The Hutterite groups have never built churches but always met for worship in their dining halls which are of necessity very large.

One feels, when conversing with the Hutterians, that their deepest religious experiences come from their "fellowship of service" for the common good of all. To quote from an ancient Hutterian publication: "No one among them is idle—just as in a colony of bees in the common hive one part prepares the honey, another the wax, another furnishes water and another does something else so that the precious sweet honey may finally be produced and that in an amount not just sufficient for their own needs but enough that man may also be supplied—so is it among them. It is by thorough organization alone that a good work may be established and maintained, especially in the House of God who Himself is a God of order and a Master-Workman."



AT PETAWAWA. Recently at Petawawa their Excellencies made their first visit to a militia camp in the Dominion. Above, H.R.H. Princess Alice is shown with nurse and Lady-in-Waiting Hon. Ariel Baird, coming out of the Hospital section of the camp.